Revised forms for the submission of the Confidence-Building Measures

At the Third Review Conference it was agreed that all States Parties present the following declaration, later amended by the Seventh Review Conference:

Declaration form on Nothing to Declare or Nothing New to Declare for use in the information exchange

Measure	*Nothing to declare*	*Nothing new to declare*	*Year of last declaration if nothing new to declare*
A, part 1			
A, part 2 (i)		X	2009
A, part 2 (ii)			
A, part 2 (iii)			
B			
C			
E			
F		X	2001
G			

(Please mark the appropriate box(es) for each measure with a tick, and fill in the year of last declaration in the last column where applicable.)

Date: Wednesday, April 15, 2024

State Party to the Convention: Switzerland

Date of ratification/accession to the Convention: Tuesday, May 4, 1976

National point of contact:

Laurin van der Haegen (Arms Control, Disarmament and Cybersecurity Section - International Security Division - Swiss Federal Department of Foreign Affairs) - laurin.vanderhaegen@eda.admin.ch
Political Affairs Officer BWC/CWC

Address: Effingerstrasse 27, CH - 3003 Bern, Switzerland

Telephone: +41 58 467 69 18

Active promotion of contacts

The Third Review Conference agreed that States parties continue to implement the following:

"Active promotion of contacts between scientists, other experts and facilities engaged in biological research directly related to the Convention, including exchanges and visits for joint research on a mutually agreed basis."

In order to actively promote professional contacts between scientists, joint research projects and other activities aimed at preventing or reducing the occurrence of ambiguities, doubts and suspicions and at improving international cooperation in the field of peaceful bacteriological (biological) activities, the Seventh Review Conference encouraged States parties to share forward looking information, to the extent possible,

- on planned international conferences, seminars, symposia and similar events dealing with biological research directly related to the Convention, and

- on other opportunities for exchange of scientists, joint research or other measures to promote contacts between scientists engaged in biological research directly related to the Convention,

including through the Implementation Support Unit (ISU) within the United Nations Office for Disarmament Affairs.

Confidence-Building Measure "A"

Part 1 Exchange of data on research centres and laboratories

At the Third Review Conference it was agreed that States Parties continue to implement the following:

"Exchange of data, including name, location, scope and general description of activities, on research centres and laboratories that meet very high national or international safety standards established for handling, for permitted purposes, biological materials that pose a high individual and community risk or specialize in permitted biological activities directly related to the Convention."

Modalities

The Third Review Conference agreed on the following, later amended by the Seventh Review Conference:

Data should be provided by States Parties on each facility, within their territory or under their jurisdiction or control anywhere, which has any maximum containment laboratories meeting those criteria for such maximum containment laboratories as specified in the latest edition of the WHO[1] Laboratory Biosafety Manual and/or OIE [2] Terrestrial Manual or other equivalent guidelines adopted by relevant international organisations, such as those designated as biosafety level 4 (BL4, BSL4 or P4) or equivalent standards.

States Parties that do not possess a facility meeting criteria for such maximum containment should continue to Form A, part 1 (ii).

Form A, part 1 (i)

Exchange of data on research centres and laboratories [3]

1. Name(s) of facility [4]:
Labor Spiez (Spiez Laboratory)

[Declared in accordance with Form A Part 2(iii)]

2. Responsible public or private organization or company:
Federal Office for Civil Protection, Federal Department of Defence, Civil Protection and Sports

3. Location and postal address:
Labor Spiez, Bundesamt für Bevölkerungsschutz, Eidgenössisches Departement für Verteidigung, Bevölkerungsschutz und Sport, Austrasse, CH-3700 Spiez, Switzerland

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence:

Swiss Confederation (Federal Department of Defence, Civil Protection and Sports)

5. Number of maximum containment units [5] within the research centre and/or laboratory, with an indication of their respective size (SqM):

BL 2: 483 SqM
BL 3: 126 SqM
BL 4: 118 SqM
Of note, the BSL4 unit is operational and holds a license as follows: "Development of methods to detect and analyze viral pathogens of risk group 4 (clinical samples, environmental samples, including samples suspect of bioterrorism origin) as well as evaluation of antiviral substances, neutralizing antibodies and decontamination solutions".

6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate:

Spiez Laboratory, which is part of the Federal Office for Civil Protection, is the Swiss Center of Expertise in NBC Protection. Its Biology Division has a range of activities including research, development, test & evaluation, training, as well as diagnosis in the fields of virology, bacteriology, toxinology and biosafety. The tasks include analysis of unknown samples, diagnostics and identification of potential biological warfare and bioterror agents, and research & development in coordination with contractors. Spiez Laboratory deals with many different biological agents and toxins known to be pathogenic for humans.

Spiez Laboratory is also a National Reference Center mandated by the Swiss Federal Office of Public Health as follows:

- National Reference Center for Highly Pathogenic Bacteria
    - *Bacillus anthracis* (anthrax)
    - *Francisella tularensis* (tularemia)
    - *Yersinia pestis* (plague)
    - *Brucella spp.* (brucellosis)
    - *Burkholderia pseudomallei* (melioidosis)
    - other bacterial pathogens according to requirements of the national coordination committee of the Regional Laboratory Network

In addition, Spiez Laboratory supports the National Reference Center for Emerging Viral Infections responsible for the detection of emerging and re-emerging viruses of all biosafety levels, especially hemorrhagic fever viruses and variola virus.

For more detailed information please visit: https://www.spiezlab.admin.ch/en/home.html

1. Name(s) of facility [4]:
Centre National de Référence pour les Infections Virales Emergentes (National Reference Center for Emerging Viral Infections)

[Declared in accordance with Form A Part 2(iii)]

2. Responsible public or private organization or company:
Virological Laboratory, University Hospitals of Geneva

3. Location and postal address:
Centre National de Référence pour les Infections Virales Emergentes, Laboratoire de Virologie, Hôpitaux Universitaires de Genève, Rue Gabrielle Perret-Gentil 4, CH-1205 Genève, Switzerland

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence:

Swiss Confederation (Federal Department of Home Affairs)

5. Number of maximum containment units [5] within the research centre and/or laboratory, with an indication of their respective size (SqM):

BL 2: 29 SqM
BL 3: 39 SqM
BL 4: 36 SqM
Of note, the BSL4 unit is operational and holds a license for diagnostic purposes only, as follows: "Detection of viruses in clinical samples by molecular and/or serological methods".

6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate:

The National Reference Center for Emerging Viral Diseases (CRIVE/NAVI) is a national reference laboratory by order of the Federal Office of Public Health. Its task is the detection of emerging and re-emerging viruses of all biosafety levels, especially hemorrhagic fever viruses and smallpox virus. The BSL4 unit is approved for diagnostic purposes only, which does not allow any culturing or enrichment of such viruses. The National Reference Center for Emerging Viral Diseases is part of the Laboratory of Virology at the University Hospitals of Geneva. Since the 1st January 2018, the CRIVE acts also as WHO National Center for Measles and Rubella.

The Laboratory of Virology (LV) performs the analysis of many viruses impacting the human health as done in most of the hospitals (HIV, Hepatitis, CMV, EBV, respiratory and enteric viruses, etc.). LV does most of the viral analysis needed by a university hospital.

LV also hosts the Swiss National Center for Influenza.

For further information please visit (website in French):
https://www.hug-ge.ch/laboratoire-virologie

1. Name(s) of facility [4]:
Institut für Medizinische Virologie (Institute of Medical Virology)

[Declared in accordance with Form A Part 2(iii)]

2. Responsible public or private organization or company:
Faculty of Medicine, University of Zurich

3. Location and postal address:
Institut für Medizinische Virologie, Medizinische Fakultät, Universität Zürich, Winterthurerstrasse 190, CH-8057 Zürich, Switzerland

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence:

Cantons of Appenzell Ausserrhoden, Appenzell Innerrhoden, Glarus, Graubünden, Sankt Gallen, Schaffhausen, Thurgau, Zug, Zürich, and the Principality of Liechtenstein

5. Number of maximum containment units [5] within the research centre and/or laboratory, with an indication of their respective size (SqM):

BL 3: 25 SqM
Of note, the Institute of Medical Virology holds a BSL4 license for diagnostic purposes only, as follows: "Inactivation or extraction of environmental samples or samples containing potentially highly pathogenic viruses for diagnostic purposes".

6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate:

The Institute of Medical Virology at the University of Zurich is the Regional Competence Center for the primary analysis of viral samples suspicious of a bioterror-related background. This represents an additional and not a continuous task of the viral diagnostics laboratory.

For further information please visit:
https://www.virology.uzh.ch/en.html

1. Name(s) of facility [4]:
Institut für Virologie und Immunologie (Institute of Virology and Immunology)

[Declared in accordance with Form A Part 2(iii)]

2. Responsible public or private organization or company:
Federal Food Safety and Veterinary Office, Federal Department of Home Affairs

3. Location and postal address:
Institut für Virologie und Immunologie, Bundesamt für Lebensmittelsicherheit und Veterinärwesen, Eidgenössisches Departement des Innern, Sensemattstrasse 293, CH-3147 Mittelhäusern, Switzerland

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence:

Swiss Confederation (Federal Department of Home Affairs)

5. Number of maximum containment units [5] within the research centre and/or laboratory, with an indication of their respective size (SqM):

BL 2: 600 SqM
BL 3: 100 SqM
ABL 3 Ag: 10000 SqM
Of note, ABL3Ag facilities have special features not comparable to standard BSL3 or BSL4 facilities. The shell is considered BSL4, whereas inside the containment area BSL1, BSL2 and BSL3 space is common standard. Personnel enters through a shower barrier and is provided with suitable laboratory clothing for BSL1, 2 and 3 inside the containment area. Personnel has to shower out when leaving the containment area and has to keep a 72h quarantine (no contact to cloven hoofed animals). The IVI fulfills the requirements of the EU Minimum Biorisk Management Standards for Laboratories Working with Foot-And-Mouth Disease Virus. Due to these special features of ABL3Ag facilities, the ABL3Ag area is not limited to laboratory units only, but also includes engineering floors such as effluent treatment plant or ventilation units and animal units, which are all located within the containment area. Therefore, all maintenance work has to be done during operation – the facility has never been shut down so far. This also means that a direct comparison with BSL4 facilities is not practicable. Licenses are as follows: "Study of African swine fever immunopathogenesis in domestic pigs"; "Quality controls of immuno-biological products for use in applications of veterinary medicine"; "Establishment of a cell-based rapid test to determine protection provided by vaccination against foot-and-mouth disease virus"; "Peste des petits ruminants virulence".

6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate:

The Institute of Virology and Immunology (IVI), which is part of the Swiss Federal Food Safety and Veterinary Office, is the ISO 17025 accredited institute for the diagnosis, surveillance and control of highly contagious epizootics. As such the IVI is the national reference laboratory for >25 pathogens. In addition, the IVI pursues research both on these viruses and emerging viral diseases, as well as their potential transmission to man. The IVI is also the competent authority issuing the licenses required for the sale of veterinary immunobiological products. Basic research is carried out in the fields of immunology and virology, and involves influenza virus, foot-and-mouth disease virus, African swine fever virus and new emergent viruses with zoonotic potential. An important research topic in 2022 was SARS-CoV-2. The development and diagnostics branches focus on assays and tests for various viral animal diseases. Through the cooperation with the Vetsuisse Faculty of the University of Bern, the IVI is also responsible for the teaching of virology and immunology.

For further information please visit: https://www.ivi.admin.ch/ivi/en/home.html

Form A, part 1 (ii)

If no BSL4 facility is declared in Form A, part 1 (i), indicate the highest biosafety level implemented in facilities handling biological agents[6] on a State Party's territory:

Biosafety level 3[7]	N/A
Biosafety level 2[8] (if applicable)	N/A

Any additional relevant information as appropriate:

N/A

Part 2 Exchange of information on national biological defence research and development programmes

At the Third Review Conference it was agreed that States Parties are to implement the following:

In the interest of increasing the transparency of national research and development programmes on biological defence, the States Parties will declare whether or not they conduct such programmes. States Parties agreed to provide, annually, detailed information on their biological defence research and development programmes including summaries of the objectives and costs of effort performed by contractors and in other facilities. If no biological defence research and development programme is being conducted, a null report will be provided.

States Parties will make declarations in accordance with the attached forms, which require the following information:

(1) The objective and summary of the research and development activities under way indicating whether work is conducted in the following areas: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination and other related research;

(2) Whether contractor or other non-defence facilities are utilized and the total funding provided to that portion of the programme;

(3) The organizational structure of the programme and its reporting relationships; and

(4) The following information concerning the defence and other governmental facilities in which the biological defence research and development programme is concentrated;

(a) location;

(b) the floor areas (sqM) of the facilities including that dedicated to each of BL2, BL3 and BL4 level laboratories;

(c) the total number of staff employed, including those contracted full time for more than six months;

(d) numbers of staff reported in (c) by the following categories: civilian, military, scientists, technicians, engineers, support and administrative staff;

(e) a list of the scientific disciplines of the scientific/engineering staff;

(f) the source and funding levels in the following three areas: research, development, and test and evaluation; and

(g) the policy regarding publication and a list of publicly-available papers and reports.

Form A, part 2 (i)

National biological defence research and development programmes Declaration

Are there any national programmes to conduct biological defence research and development within the territory of the State Party, under its jurisdiction or control anywhere? Activities of such programmes would include prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination and other related research.

yes

If the answer is Yes, complete Form A, part 2 (ii) which will provide a description of each programme.

Form A, part 2 (ii)

National biological defence research and development programmes

Description

National Biological Defense Program

1. State the objectives and funding of each programme and summarize the principal research and development activities conducted in the programme. Areas to be addressed shall include: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination and other related research.

The objective is to establish national biological defense proficiency by developing and improving precise and accurate tests for the rapid diagnosis as well as for identification, including characterzation, of different biological agents and toxins using various methods. Spiez Laboratory is assigned to fulfill this task and to close any gaps to reach national biological defense excellence. To improve the national biological defense capabilities of Switzerland, Spiez Laboratory has funds available to run a dedicated program with the goal of added research and development mainly benefitting detection, diagnostic and identification techniques. A major part of the program is conducted under contract with national and international industries, academic institutions as well as domestic and foreign governmental agencies, as detailed in paragraph 5.

Spiez Laboratory is part of the Federal Office for Civil Protection FOCP within the Federal Department of Defence, Civil Protection and Sports DDPS of the Swiss Confederation. Spiez Laboratory is the Swiss center of expertise in protection against nuclear, biological and chemical (NBC) threats and hazards. Besides delivering its expertise to relevant stakeholders, the Biology Division of Spiez Laboratory is concerned with the identification of biological agents and toxins, as well as supports military biological protection units. The Biology Division has four main branches that are engaged in the fields of virology, bacteriology and toxinology, as well as biosafety and biosecurity.

Spiez Laboratory possesses a high containment facility that allows for the safe handling of biological agents of all risk groups. It is the only BSL4 high containment facility in Switzerland holding a license which is not limited to diagnostic purposes. It serves towards the comprehensive detection and identification of human pathogens. This enables Spiez Laboratory to act in the Regional Laboratory Network as both a Regional Competence Center and as a National Reference Center / National Reference Laboratory having all necessary capabilities and capacities at hand.

For additional information and more on the vision of a world without weapons of mass destruction please visit: https://www.spiezlab.admin.ch/en/home.html

2. State the total funding for each programme and its source.

Swiss Confederation, Federal Department of Defence, Civil Protection and Sports DDPS, Federal Office for Civil Protection FOCP.

Total Funding: 5'000'000 p.a.

Funding Currency: CHF

3. Are aspects of these programmes conducted under contract with industry, academic institutions, or in other non-defence facilities?

yes

4. If yes, what proportion of the total funds for each programme is expended in these contracted or other facilities?

10 %

5. Summarize the objectives and research areas of each programme performed by contractors and in other facilities with the funds identified under paragraph 4.

All contracted research and development of the program is supervised by Spiez Laboratory. Please also refer to paragraph 1 above for additional details. The contractors part of the program in 2023 were as follows:

- Eidgenössische Technische Hochschule Zürich – ETHZ
  Center for Security Studies – CSS
  Haldeneggsteig 4, IFW
  CH-8092 Zürich
  Switzerland
  Project title: „Analysis of trends in science and policy“

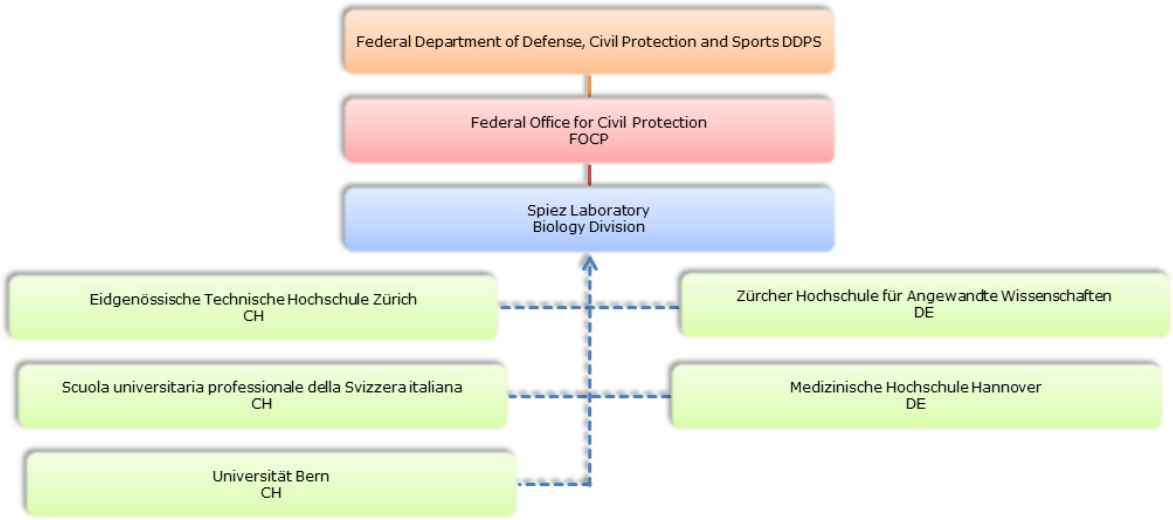
- Scuola Universitaria Professionale della Svizzera Italiana – SUPSI
  Istituto Microbiologia
  Via Mirasole 22a
  CH-6500 Bellinzona
  Switzerland
  Project title: „Vector Surveillance”
  Project title: „Next-Generation Toxin Detection“
  Project title: „Establishment of a CRISPR-Cas System for agile diagnostics and antiviral testing”

- Zürcher Hochschule für Angewandte Wissenschaften – ZHAW
  Institut für Chemie und Biologische Chemie – ICBC
  Einsiedlerstrasse 31
  CH-8820 Wädenswil
  Switzerland
  Project title: „ Development of an innovative method for botulism detection: characterisation and optimisation“

- Universität Bern – UniBE
  Department for Biomedical Research
  Sahli-Haus 2
  CH-3010 Bern
  Switzerland
  Project title: „Assessment of tenacity of highly pathogenic viruses, antivirals and inactivation strategies as well as evaluation of clinical samples”

- Medizinische Hochschule Hannover
  Institute of Toxicology
  Meitnerstrasse 2
  DE-30627 Hannover
  Germany
  Project title: „Development of an innovative method for botulism detection”

6. Provide a diagram of the organizational structure of each programme and the reporting relationships (include individual facilities participating in the programme).



7. Provide a declaration in accordance with Form A, part 2 (iii) for each facility, both governmental and non-governmental, which has a substantial proportion of its resources devoted to each national biological defence research and development programme, within the territory of the reporting State, or under its jurisdiction or control anywhere.

Please refer to Form A, part 2 (iii).

Attachments:
N/A

Regional Laboratory Network

1. State the objectives and funding of each programme and summarize the principal research and development activities conducted in the programme. Areas to be addressed shall include: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination and other related research.

The objective is the establishment and maintenance of capability and capacity for the rapid laboratory-based identification of pathogens in case of a biological emergency, whether it be of natural or accidental origin or due to deliberate release. This forms the basis for any adequate countermeasures that need to be planned and implemented to ensure the protection of the population. The consequent integration of state-of-the-art detection and diagnostic techniques as well as their constant refinement and improvement is therefore indispensable for a holistic biological emergency concept.

The implemented structure is a decentralized network of Regional Competence Centers and National Reference Centers, all of which have been mandated by the Federal Office of Public Health. This network benefits from already existing infrastructure. The network is embedded in the Swiss CBRN concept and is coordinated by the Regional Laboratory Coordination Committee that consists of federal, cantonal and scientific experts. There is a total of three National Reference Centers and six Regional Competence Centers called Regional Laboratories. The task for Regional Laboratories is the rapid identification of pathogens, whereas National Reference Centers are qualified for confirmatory analysis. All facilities pursue civil duties and are put on assignments of the Regional Laboratory Network in the event of biological emergencies only. All cantons are part of the network either as a host canton of a Regional Laboratory (bold) or as an affiliated canton:

Regional Laboratory West: FR, **GE**, NE, **VD**, VS
Regional Laboratory West Central: **BE**, JU
Regional Laboratory East Central: **LU**, NW, OW, SZ, UR
Regional Laboratory East: AI, AR, GL, GR, SG, SH, TG, ZG, **ZH** (+ FL)
Regional Laboratory North: AG, BL, **BS**, SO
Regional Laboratory South: **TI**

Of note, the two cantons of Genève (GE) and Vaud (VD) share the authority over the Regional Laboratory West. The Principality of Liechtenstein (FL) participates in the Regional Laboratory East. For an explanation of abbreviations, please refer to the comprehensive map presented in paragraph 6.

The network consists of the following facilities that are described in Form A, part 2 (iii) in more detail:

Function	**Authority**	**Facility**
NRC	GDK	Labor Spiez
		Centre National de Référence pour les Infections Virales Emergentes
		Institut für Virologie und Immunologie
RL West	Canton of Genève	Laboratoire de Bactériologie
		Centre National de Référence pour les Infections Virales Emergentes
	Canton of Vaud	Laboratoires de Diagnostic de l'Institut de Microbiologie
RL West Central	Canton of Bern	Labor Spiez
RL East Central	Canton of Luzern	Medizinische Mikrobiologie
RL East	Canton of Zürich	Institut für Medizinische Mikrobiologie
		Institut für Medizinische Virologie
RL North	Canton of Basel-Stadt	Kantonales Laboratorium Basel-Stadt
RL South	Canton of Ticino	Istituto Microbiologia

Abbreviations:
NRC: National Reference Center
RL: Regional Laboratory

GDK: Swiss Conference of Cantonal Ministers of Public Health

Information on the Regional Laboratory Network can also be found online (website in French): https://www.bag.admin.ch/bag/fr/home/krankheiten/infektionskrankheiten-bekaempfen/labordiagnostik-infektionskrankheiten/regionallabornetzwerk.html

2. State the total funding for each programme and its source.

All personnel involved in activities in relation to the Regional Laboratory Network is tasked with other civil duties. Many of these other activities, such as development of related methods, sample preparation and processing, training, etc., although at least indirectly of benefit to the activities in relation to the Regional Laboratory Network, remain unaccounted for and are not singled out as being of such nature. Furthermore, the whole network relies on existing infrastructures in use for other civil purposes. Due to these facts it is not possible to sort out personnel costs, costs of materials and consumables, as well as dedicated infrastructure costs for the program, however, it is possible to name the funding sources as follows:

- Swiss Confederation, Federal Department of Home Affairs FDHA
- All twenty-six cantons of Switzerland
- Principality of Liechtenstein

Total Funding: N/A

Funding Currency: N/A

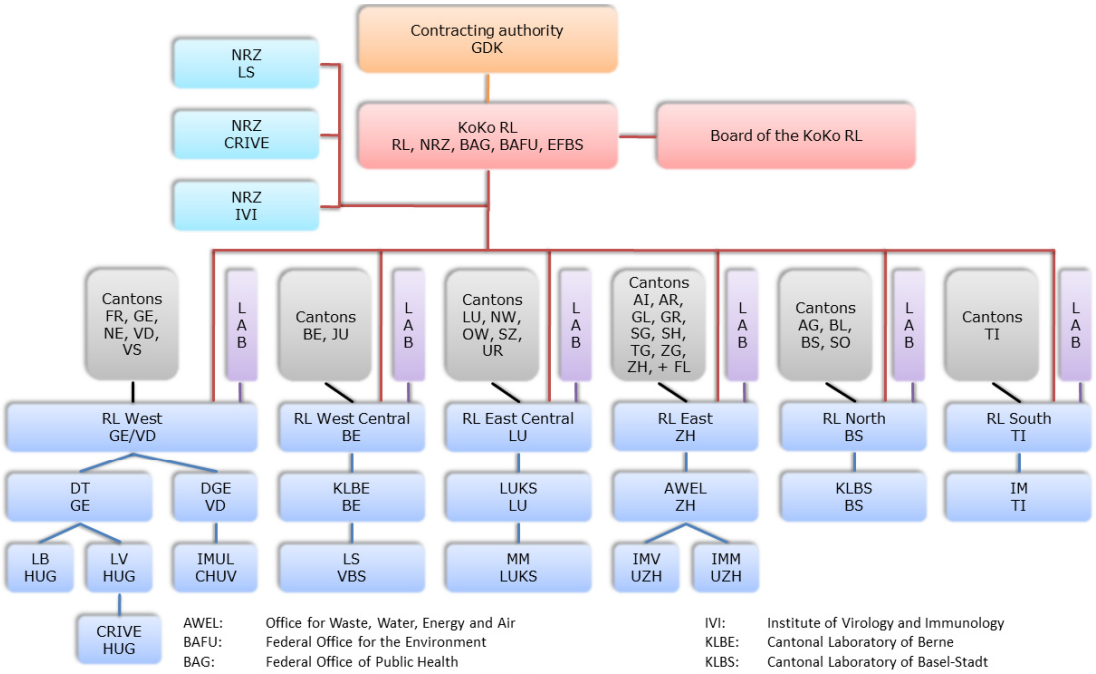
3. Are aspects of these programmes conducted under contract with industry, academic institutions, or in other non-defence facilities?

no

4. If yes, what proportion of the total funds for each programme is expended in these contracted or other facilities?
N/A

5. Summarize the objectives and research areas of each programme performed by contractors and in other facilities with the funds identified under paragraph 4.
N/A

6. Provide a diagram of the organizational structure of each programme and the reporting relationships (include individual facilities participating in the programme).



AWEL:	Office for Waste, Water, Energy and Air
BAFU:	Federal Office for the Environment
BAG:	Federal Office of Public Health
Cantons:	Please refer to the map in paragraph 1 above
CHUV:	University Hospital Center of Vaud
CRIVE:	National Reference Center for Emerging Viral Infections
DT:	Department for the Territory
DGE:	Directorate-General for Environment
EFBS:	Swiss Expert Committee for Biosafety
GDK:	Swiss Conference of Cantonal Ministers of Public Health
HUG:	University Hospitals of Geneva
IMM:	Institute of Medical Microbiology
IMUL:	Diagnostic Laboratories of the Institute of Microbiology
IMV:	Institute of Medical Virology
IM:	Institute of Microbiology
IVI:	Institute of Virology and Immunology
KLBE:	Cantonal Laboratory of Berne
KLBS:	Cantonal Laboratory of Basel-Stadt
KoKo:	Coordination Committee
LAB:	Laboratory Advisory Board
LB:	Bacteriological Laboratory
LS:	Spiez Laboratory
LUKS:	Cantonal Hospital of Luzern
LV:	Virological Laboratory
MM:	Medical Microbiology
NRZ:	National Reference Center
RL:	Regional Laboratory
UZH:	University of Zurich
VBS:	Federal Department of Defense, Civil Protection and Sports

SWITZERLAND
AG Aargau
AI Appenzell Innerrhoden
AR Appenzell Ausserrhoden
BE Bern / Berne
BL Basel Landschaft
BS Basel Stadt
FR Fribourg / Freiburg
GE Genève
GL Glarus
GR Graubünden / Grischun / Grigioni
JU Jura
LU Luzern
NE Neuchâtel
NW Nidwalden
OW Obwalden
SG Sankt Gallen
SH Schaffhausen
SO Solothurn
SZ Schwyz
TG Thurgau
TI Ticino
UR Uri
VD Vaud
VS Valais / Wallis
ZG Zug
ZH Zürich

7. Provide a declaration in accordance with Form A, part 2 (iii) for each facility, both governmental and non-governmental, which has a substantial proportion of its resources devoted to each national biological defence research and development programme, within the territory of the reporting State, or under its jurisdiction or control anywhere.

Please refer to Form A, part 2 (iii).

Attachments:

N/A

Form A, part 2 (iii)

National biological defence research and development programmes

Facilities

Complete a form for each facility declared in accordance with paragraph 7 in Form A, part 2 (ii).

In shared facilities, provide the following information for the biological defence research and development portion only.

1. What is the name of the facility?

Labor Spiez (Spiez Laboratory)

2. Where is it located (include both address and geographical location)?

Labor Spiez, Bundesamt für Bevölkerungsschutz, Eidgenössisches Departement für Verteidigung, Bevölkerungsschutz und Sport, Austrasse, CH-3700 Spiez, Switzerland

N 46° 41' 26.32", E 7° 38' 39.41"

3. Floor area of laboratory areas by containment level:

BL 2: 483 SqM
BL 3: 126 SqM
BL 4: 118 SqM
Of note, the BSL4 unit is operational and holds a license as follows: "Development of methods to detect and analyze viral pathogens of risk group 4 (clinical samples, environmental samples, including samples suspect of bioterrorism origin) as well as evaluation of antiviral substances, neutralizing antibodies and decontamination solutions".

Total laboratory floor area (SqM):

727

4. The organizational structure of each facility.

(i) Total number of personnel: 22

(ii) Division of personnel:
Military: 0
Civilian: 22

(iii) Division of personnel by category:
Scientists: 14
Engineers: 0
Technicians: 8
Administrative and support staff: 0

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Virology, bacteriology, toxinology, biosafety and biosecurity.

Of note, as of 1 January 2024 the total number of personnel at Spiez Laboratory amounts to 107, 20 of which in the Biology Division and 2 of which in the NBC Arms Control Unit dealing with biological matters.

(v) Are contractor staff working in the facility? If so, provide an approximate number.

2

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Swiss Confederation (Federal Department of Defence, Civil Protection and Sports):

CHF 5'000'000.-

Research	15 %
Development	10 %
Test & Evaluation	5 %
Analysis / Diagnosis	15 %
Education & Training	5 %
Other activities	50 % (costs for operation, maintenance and amortization)

(vii) What are the funding levels for the following programme areas:

Research: 15 %
Development: 10 %
Test and evaluation: 5 %

(viii) Briefly describe the publication policy of the facility:

Publication in open literature.

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references)

Virucidal activity of three standard chemical disinfectants against Ebola virus suspended in tripartite soil and whole blood.

Jonsdottir HR, Zysset D, Lenz N, Siegrist D, Ruedin Y, Ryter S, Züst R, Geissmann Y, Ackermann-Gäumann R, Engler OB, Weber B.Sci Rep. 2023 Sep 21;13(1):15718. doi: 10.1038/s41598-023-42376-8.PMID: 37735604 .

Antibody responses to recombinant vesicular stomatitis virus-Zaire Ebolavirus vaccination for Ebola virus disease across doses and continents: 5-year durability.

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Preventing AI From Creating Biochemical Threats.

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There's a 'ChatGPT' for biology. What could go wrong?

Ekins, S., Lentzos, F., Brackmann, M., Invernizzi, C.,
Bulletin of the Atomic Scientist, 2023 March

Notes:

N/A

Attachments:

N/A

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms [9] and/or toxins studied, as well as outdoor studies of biological aerosols.

Spiez Laboratory, which is part of the Federal Office for Civil Protection, is the Swiss Center of Expertise in NBC Protection. Its Biology Division has a range of activities including research, development, test & evaluation, training, as well as diagnosis in the fields of virology, bacteriology, toxinology and biosafety. The tasks include analysis of unknown samples, diagnostics and identification of potential biological warfare and bioterror agents, food and water analysis for the Swiss Armed Forces, and research & development in coordination with contractors. Spiez Laboratory deals with many different biological agents and toxins known to be pathogenic for humans.

Spiez Laboratory is also a National Reference Center mandated by the Swiss Federal Office of Public Health as follows:

- National Reference Center for Highly Pathogenic Bacteria
  - *Bacillus anthracis* (anthrax)
  - *Francisella tularensis* (tularemia)
  - *Yersinia pestis* (plague)
  - *Brucella spp.* (brucellosis)
  - *Burkholderia pseudomallei* (melioidosis)
  - other bacterial pathogens according to requirements of the national coordination committee of the Regional Laboratory Network

In addition, Spiez Laboratory supports the National Reference Center for Emerging Viral Infections responsible for the detection of emerging and re-emerging viruses of all biosafety levels, especially hemorrhagic fever viruses and variola virus.

For more detailed information please visit: https://www.spiezlab.admin.ch/en/home.html

1. What is the name of the facility?

Institut für Virologie und Immunologie (Institute of Virology and Immunology)

2. Where is it located (include both address and geographical location)?

Institut für Virologie und Immunologie, Bundesamt für Lebensmittelsicherheit und Veterinärwesen, Eidgenössisches Departement des Innern, Sensemattstrasse 293, CH-3147 Mittelhäusern, Switzerland

N 46° 52' 50.20", E 7° 21' 46.81"

3. Floor area of laboratory areas by containment level:

BL 2: 500 SqM
BL 3: 0 SqM
ABL 3 Ag: 10300 SqM
Of note, ABL3Ag facilities have special features not comparable to standard BSL3 or BSL4 facilities. The shell is considered BSL4, whereas inside the containment area BSL1, BSL2 and BSL3 space is common standard. Personnel enters through a shower barrier and is provided with suitable laboratory clothing for BSL1, 2 and 3 inside the containment area. Personnel has to shower out when leaving the containment area and has to keep a 72h quarantine (no contact to cloven hoofed animals). The IVI fulfills the requirements of the EU Minimum Biorisk Management Standards for Laboratories Working with Foot-And-Mouth Disease Virus. Due to these special features of ABL3Ag facilities, the ABL3Ag area is not limited to laboratory units only, but also includes engineering floors such as effluent treatment plant or ventilation units and animal units, which are all located within the containment area. Therefore, all maintenance work has to be done during operation - the facility has never been shut down so far. This also means that a direct comparison with BSL4 facilities is not practicable. Furthermore, the IVI has additional space as follows: administration: 900 m^2; technical space: 1675 m^2; animal stables: 825 m^2; TOTAL: 3400 m^2 Licenses are as follows: "Quality controls of immuno-biological products for use in applications of veterinary medicine"; "Establishment of a cell-based rapid test to determine protection provided by vaccination against foot-and-mouth disease virus"; "Validation of decontamination by H2O2"; "Diagnostics of viral pathogens causing highly contagious animal diseases"; "Study of African swine fever immuno-pathogenesis in domestic pigs"; "Peste des petits ruminants virulence".

Total laboratory floor area (SqM):

10800

4. The organizational structure of each facility.

(i) Total number of personnel: 78

(ii) Division of personnel:
Military: 0
Civilian: 78

(iii) Division of personnel by category:
Scientists: 21
Engineers: 10
Technicians: 40
Administrative and support staff: 5

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Virology, immunology, veterinary medicine, diagnostics, development and validation of methods, biosafety, engineering, animal breeding, informatics

(v) Are contractor staff working in the facility? If so, provide an approximate number.
0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Swiss Confederation (Federal Department of Home Affairs).

Research	25 %
Development	5 %
Test & Evaluation	5 %
Analysis / Diagnosis	25 %
Education & Training	10 %
Other activities	30 % (costs for safety, infrastructure and administration)

(vii) What are the funding levels for the following programme areas:

Research: 25 %
Development: 5 %
Test and evaluation: 5 %

(viii) Briefly describe the publication policy of the facility:

Publication in open literature.

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references)

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Avanthay, R.#, García-Nicolas, O., Zimmer, G., and Summerfield, A. (2023) NS1 and PA-X of H1N1/09 influenza virus act in a concerted manner to manipulate the innate immune response of porcine respiratory epithelial cells. *Frontiers in Cellular and Infection Microbiology* 13, 1222805. (PubMed) (article)

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C.K., Meisl, G., Kosmoliaptsis, V., Malinauskas, T., Burgess-Brown, N., Owens, R., Hatch, S., Mongkolsapaya, J., Screaton, G.R., Schubert, K., Huck, J.D., Liu, F., Pojer, F., Lau, K., Hacker, D., Probst-Müller, E., Cervia, C., Nilsson, J., Boyman, O., Saleh, L., Spanaus, K., von Eckardstein, A., Schaer, D.J., Ban, N., Tsai, C.J., Marino, J., Schertler, G.F.X., Ebert, N., Thiel, V., Gottschalk, J., Frey, B.M., Reimann, R.R., Hornemann, S., Ring, A.M., Knowles, T.P.J., Puhan, M.A., Althaus, C.L., Xenarios, I., Stuart, D.I., and Aguzzi, A. (2023) Continuous population-level monitoring of SARS-CoV-2 seroprevalence in a large European metropolitan region. *iScience* 26:2, 105928. (PubMed) (article)

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Kahlert, C.R., Nigg, S., Onder, L., Dijkman, R., Diener, L., Vidal, A.G.J., Rodriguez, R., Vernazza, P., Thiel, V., Vidal, J.E., and Albrich, W.C. (2023) The quorum sensing com system regulates pneumococcal colonisation and invasive disease in a pseudo-stratified airway tissue model. *Microbiological Research* 268, 127297. (PubMed) (article)

Kristen-Burmann, C., Rogger, P., Veiga, I.B., Riebesehl, S., Rappe, J., Ebert, N., Sautter, C.A., Kelly, J.N., Stalder, H., Ehmann, R., Huber, M., Posthaus, H., Ruggli, N., Thiel, V., and Tekes, G. (2023) Reverse genetic assessment of the roles played by the spike protein and ORF3 in porcine epidemic diarrhea virus pathogenicity. *Journal of Virology* 97:7, e0196422. (PubMed) (article)

Kratzel, A., and Thiel, V. (2023) RTN3 and RTN4: Architects of SARS-CoV-2 replication organelles. *Journal of Cell Biology* 222:7, e202306020. (PubMed) (article)

Mhlekude, B., Postmus, D., Stenzel, S., Weiner, J., Jansen, J., Zapatero-Belinchón, F.J., Olmer, R., Richter, A., Heinze, J., Heinemann, N., Mühlemann, B., Schroeder, S., Jones, T.C., Müller, M.A., Drosten, C., Pich, A., Thiel, V., Martin, U., Niemeyer, D., Gerold, G., Beule, D., and Goffinet, C. (2023) Pharmacological inhibition of

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Oba, P., Dione, M., Mwiine, F.N., Wieland, B., Erume, J., and Ouma, E. (2023) Economic losses associated with respiratory and helminth infections in domestic pigs in Lira district, Northern Uganda. *Frontiers in Veterinary Science* 10, 1198461. (PubMed) (article)

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Radzikowska, U., Eljaszewicz, A., Tan, G., Stocker, N., Heider, A., Westermann, P., Steiner, S.#, Dreher, A., Wawrzyniak, P., Ruckert, B., Rodriguez-Coira, J., Zhakparov, D., Huang, M., Jakiela, B., Sanak, M., Moniuszko, M., O'Mahony, L., Jutel, M., Kebadze, T., Jackson, D.J., Edwards, M.R., Thiel, V., Johnston, S.L., Akdis, C.A., and Sokolowska, M. (2023) Rhinovirus-induced epithelial RIG-I inflammasome suppresses antiviral immunity and promotes inflammation in asthma and COVID-19. *Nature Communications* 14:1, 2329. (PubMed) (article)

Rosato, G., Abril, C., Hilbe, M., and Seehusen, F. (2023) A combined approach for detection of ovine small ruminant retrovirus co-infections. *Viruses* 15:2, 376. (PubMed) (article)

Stegmüller, S., Qi, W., Torgerson, P.R., Fraefel, C., and Kubacki, J. (2023) Hazard potential of Swiss *Ixodes ricinus* ticks: Virome composition and presence of selected bacterial and protozoan pathogens. *PLoS ONE* 18:11, e0290942. (PubMed) (article)

Stojkov, D., Claus, M.J., Kozlowski, E., Oberson, K., Schären, O.P., Benarafa, C., Yousefi, S., and Simon, H.-U. (2023) NET formation is independent of gasdermin D and pyroptotic cell death. *Science Signaling* 16:769, eabm0517. (PubMed) (article)

Thalmann, P., Ehrhard, S., Summerfield, A., and Ricklin, M.E (2023) Retrospective study of tick bites associated with neurological disease in a level three university hospital in Switzerland. *Infectious Disease Reports* 15:2, 150-157. (PubMed) (article)

Thompson, D.#, Cismaru, C.V.#, Rougier, J.S., Schwemmle, M., and Zimmer, G. (2023) The M2 proteins of bat influenza A viruses reveal atypical features compared to conventional M2 proteins. *Journal of Virology* 97:8, e0038823. (PubMed) (article)

Notes:

N/A

Attachments:

N/A

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms [9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The Institute of Virology and Immunology (IVI), associated with the Swiss Federal Food Safety and Veterinary Office, is the ISO 17025 accredited institute for the diagnosis, surveillance and control of highly contagious epizootics. As such the IVI is the national reference laboratory for >25 viral pathogens. In addition, the IVI pursues research both on these viruses and emerging viral diseases, as well as their potential transmission to man. Basic research is carried out in the fields of immunology and virology, and involves influenza virus, African swine fever virus, peste des petits ruminants virus and new emergent viruses with zoonotic potential, such as Corona-viruses. The development and diagnostics branches focus on assays and tests for various viral animal diseases. Through the

cooperation with the University of Bern, the IVI is also responsible for the teaching of virology and immunology at the Vetsuisse Faculty.

For further information please visit:
https://www.ivi.admin.ch/ivi/en/home.html

1. What is the name of the facility?

Centre National de Référence pour les Infections Virales Emergentes (National Reference Center for Emerging Viral Infections)

2. Where is it located (include both address and geographical location)?

Centre National de Référence pour les Infections Virales Emergentes, Laboratoire de Virologie, Hôpitaux Universitaires de Genève, Rue Gabrielle Perret-Gentil 4, CH-1205 Genève, Switzerland

N 46° 11' 37.20", E 6° 8' 59.92"

3. Floor area of laboratory areas by containment level:

BL 2: 29 SqM
BL 3: 39 SqM
BL 4: 36 SqM
Of note, the BSL4 unit is operational and holds a license for diagnostic purposes only, as follows: "Detection of viruses in clinical samples by molecular and/or serological methods".

Total laboratory floor area (SqM):

104

4. The organizational structure of each facility.

(i) Total number of personnel: 6

(ii) Division of personnel:
Military: 0
Civilian: 6

(iii) Division of personnel by category:
Scientists: 4
Engineers: 0
Technicians: 2
Administrative and support staff: 0

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Medicine, biology, microbiology, molecular biology, viral genetics, infectious diseases.

(v) Are contractor staff working in the facility? If so, provide an approximate number.
0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Swiss Confederation (Federal Department of Home Affairs).

Research	2 %
Development	55 %
Test & Evaluation	15 %

Analysis / Diagnosis 20 %
Education & Training 1 %
Other activities 7 % (costs for maintenance and administration)

(vii) What are the funding levels for the following programme areas:

Research: 2 %
Development: 55 %
Test and evaluation: 15 %

(viii) Briefly describe the publication policy of the facility:

Publication in open literature.

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references)

SARS-CoV-2 viral load and shedding kinetics.
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Mazel-Sanchez B, Niu C, Williams N, Bachmann M, Choltus H, Silva F, Serre-Beinier V, Karenovics W, Iwaszkiewicz J, Zoete V, Kaiser L, Hartley O, Wehrle-Haller B, Schmolke M.
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PMID: 37192162 .

No time for complacency on COVID-19 in Europe.
Flahault A, Calmy A, Costagliola D, Drapkina O, Eckerle I, Larson HJ, Legido-Quigley H, Noakes C, Kazatchkine M, Kluge H.
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Orthopox viruses: is the threat growing?
Boehm E, Summermatter K, Kaiser L.
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Comparative Analysis of SARS-CoV-2 Antigenicity across Assays and in Human and Animal Model Sera.
Mühlemann B, Wilks SH, Baracco L, Bekliz M, Carreño JM, Corman VM, Davis-Gardner ME, Dejnirattisai W, Diamond MS, Douek DC, Drosten C, Eckerle I, Edara VV, Ellis M, Fouchier RAM, Frieman M, Godbole S,

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PMID: 36937308 .

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Hosszu-Fellous K, Zanella MC, Kaiser L, Neofytos D.
Curr Opin Infect Dis. 2023 Aug 1;36(4):243-249. doi: 10.1097/QCO.0000000000000928. Epub 2023 May 31.
PMID: 37260265 Review.

Long term anti-SARS-CoV-2 antibody kinetics and correlate of protection against Omicron BA.1/BA.2 infection.
Perez-Saez J, Zaballa ME, Lamour J, Yerly S, Dubos R, Courvoisier DS, Villers J, Balavoine JF, Pittet D, Kherad O, Vuilleumier N, Kaiser L, Guessous I, Stringhini S, Azman AS; Specchio-COVID19 study group.
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PMID: 37230973 .

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PMID: 37903060 No abstract available.

Longitudinal Detection of Twenty DNA and RNA Viruses in Allogeneic Hematopoietic Stem Cell Transplant Recipients Plasma.
Zanella MC, Vu DL, Hosszu-Fellous K, Neofytos D, Van Delden C, Turin L, Poncet A, Simonetta F, Masouridi-Levrat S, Chalandon Y, Cordey S, Kaiser L.
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PMID: 37112908 .

The longitudinal study of subjective wellbeing and absenteeism of healthcare workers considering post-COVID condition and the COVID-19 pandemic toll.
Nehme M, Vieux L, Kaiser L, Chappuis F, Chenaud C; HealthCo Study Team; Guessous I.
Sci Rep. 2023 Jul 4;13(1):10759. doi: 10.1038/s41598-023-37568-1.
PMID: 37402726 .

Distinct phenotype of SARS-CoV-2 Omicron BA.1 in human primary cells but no increased host range in cell lines of putative mammalian reservoir species.
Essaidi-Laziosi M, Pérez-Rodríguez FJ, Alvarez C, Sattonnet-Roche P, Torriani G, Bekliz M, Adea K, Lenk M, Suliman T, Preiser W, Müller MA, Drosten C, Kaiser L, Eckerle I.
Virus Res. 2024 Jan 2;339:199255. doi: 10.1016/j.virusres.2023.199255. Epub 2023 Nov 6.
PMID: 38389324 .

Hepatitis E Virus Infection Epidemiology in Recipients of Allogeneic Hematopoietic Cell Transplant.
Courjon J, Portillo V, Yerly S, Vetter P, Schibler M, Mappoura M, Morin S, Giannotti F, Mamez AC, van Delden C, Kaiser L, Chalandon Y, Masouridi-Levrat S, Neofytos D.
Open Forum Infect Dis. 2023 Nov 24;10(12):ofad595. doi: 10.1093/ofid/ofad595. eCollection 2023 Dec.
PMID: 38094666 .

Clinical sensitivity and specificity of a high-throughput microfluidic nano-immunoassay combined with capillary blood microsampling for the identification of anti-SARS-CoV-2 Spike IgG serostatus.
Michielin G, Arefi F, Puhach O, Bellon M, Sattonnet-Roche P, L'Huillier AG, Eckerle I, Meyer B, Maerkl SJ.
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PMID: 36952463 .

The Prevalence, Severity, and Impact of Post-COVID Persistent Fatigue, Post-Exertional Malaise, and Chronic Fatigue Syndrome.
Nehme M, Chappuis F, Kaiser L, Assal F, Guessous I.
J Gen Intern Med. 2023 Feb;38(3):835-839. doi: 10.1007/s11606-022-07882-x. Epub 2022 Nov 10.
PMID: 36357723 . No abstract available.

Notes:

N/A

Attachments:

N/A

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms [9] and/or toxins studied, as well as outdoor studies of biological aerosols.

a) The National Reference Center for Emerging Viral Diseases (CRIVE/NAVI) is a national reference laboratory by order of the Federal Office of Public Health. Its task is the detection of emerging and re-emerging viruses of all biosafety levels, especially hemorrhagic fever viruses and smallpox virus. The BSL4 unit is approved for diagnostic purposes only, which does not allow any culturing or enrichment of such viruses. The National Reference Center for Emerging Viral Diseases is part of the Laboratory of Virology at the University Hospitals of Geneva. Since the 1st January 2018, the CRIVE acts also as WHO National Center for Measles and Rubella.
b) The Laboratory of Virology (LV) performs the analysis of many viruses impacting the human health as done in most of the hospitals (HIV, Hepatitis, CMV, EBV, respiratory and enteric viruses, etc.). LV does most of the viral analysis needed by a university hospital.
c) LV also hosts the Swiss National Center for Influenza.

For further information please visit (website in French): https://www.hug-ge.ch/laboratoire-virologie

1. What is the name of the facility?

Laboratoire de Bactériologie (Bacteriological Laboratory)

2. Where is it located (include both address and geographical location)?
Laboratoire de Bactériologie, Hôpitaux Universitaires de Genève, Rue Gabrielle Perret-Gentil 4, CH-1211 Genève 14, Switzerland

N 46° 11' 37.20", E 6° 8' 59.92"

3. Floor area of laboratory areas by containment level:

BL 2: 394 SqM
BL 3: 74 SqM

Total laboratory floor area (SqM):
468

4. The organizational structure of each facility.

(i) Total number of personnel: 6

(ii) Division of personnel:
Military: 0
Civilian: 6

(iii) Division of personnel by category:
Scientists: 2
Engineers: 0
Technicians: 4
Administrative and support staff: 0

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Medicine, infectious diseases, biology, microbiology, mycology, molecular biology, bacterial genetics

(v) Are contractor staff working in the facility? If so, provide an approximate number.
0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Cantons of Fribourg, Genève, Neuchâtel, Valais, Vaud.

Research	0 %
Development	5 %
Test & Evaluation	40 %
Analysis / Diagnosis	40 %
Education & Training	13 %
Other activities	2 % (costs for maintenance and administration)

(vii) What are the funding levels for the following programme areas:

Research: 0 %
Development: 5 %
Test and evaluation: 40 %

(viii) Briefly describe the publication policy of the facility:

Publication in open literature.

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references)

Biology and Regulation of Staphylococcal Biofilm. François P, Schrenzel J, Götz F.
Int J Mol Sci. 2023 Mar 9;24(6):5218. doi: 10.3390/ijms24065218.
PMID: 36982293 Review.

Impact of air pollution on respiratory microbiome: A narrative review.
Vieceli T, Tejada S, Martinez-Reviejo R, Pumarola T, Schrenzel J, Waterer GW, Rello J.
Intensive Crit Care Nurs. 2023 Feb;74:103336. doi: 10.1016/j.iccn.2022.103336. Epub 2022 Oct 28.
PMID: 37440188 Review.

Summary of the 8th Symposium "Feeding the microbiota": prebiotics and probiotics.
De Lorenzi-Tognon M, Genton L, Schrenzel J.
Rev Med Suisse. 2023 Jun 7;19(830):1149-1153. doi: 10.53738/REVMED.2023.19.830.1149.
PMID: 37283386 Review. French.

Mycoplasma genitalium Endocarditis in Prosthetic Aortic Valve.
Ramakrishnan G, Kronig I, Gaïa N, Lazarevic V, Schrenzel J.
Emerg Infect Dis. 2023 Oct;29(10):2164-2166. doi: 10.3201/eid2910.221639.
PMID: 37735787

Metagenomics for the microbiological diagnosis of hospital-acquired pneumonia and ventilator-associated pneumonia (HAP/VAP) in intensive care unit (ICU): a proof-of-concept study.
Heitz M, Levrat A, Lazarevic V, Barraud O, Bland S, Santiago-Allexant E, Louis K, Schrenzel J, Hauser S.
Respir Res. 2023 Nov 15;24(1):285. doi: 10.1186/s12931-023-02597-x.
PMID: 37968636

Draft Genome Sequence of a Mixed-Serogroup W/Y Invasive Neisseria meningitidis Strain.
Mauffrey F, GaÏa N, Chaabane C, Renzi G, Fischer A, Cherkaoui A, Bandeira D, Schrenzel J, Lazarevic V.
Microbiol Resour Announc. 2023 Mar 16;12(3):e0105622. doi: 10.1128/mra.01056-22. Epub 2023 Feb 21.
PMID: 36809023

Clinical *Aureobasidium* Isolates Are More Fungicide Sensitive than Many Agricultural Isolates.
Magoye E, Nägeli L, Bühlmann A, Hilber-Bodmer M, Keller P, Mühlethaler K, Riat A, Schrenzel J, Freimoser FM.
Microbiol Spectr. 2023 Mar 21;11(2):e0529922. doi: 10.1128/spectrum.05299-22. Online ahead of print.
PMID: 36943135

Could daily changes in respiratory microbiota help predicting early Staphylococcus aureus ventilator-associated pneumonia?
Meyer S, Gaïa N, Lazarevic V, Schrenzel J, François B, Barraud O; SCORPIUS study group.
Intensive Care Med Exp. 2023 Jun 23;11(1):34. doi: 10.1186/s40635-023-00521-7.
PMID: 37349606 No abstract available.

Acute bacterial meningitis due to Neisseria meningitidis serotype B missed by a multiplexed PCR panel.
de Lorenzi-Tognon M, Lazarevic V, Gaïa N, Chaabane C, Cherkaoui A, Renzi G, Schrenzel J.
Clin Microbiol Infect. 2023 Dec;29(12):1613-1615. doi: 10.1016/j.cmi.2023.09.008. Epub 2023 Sep 16.
PMID: 37722530 No abstract available.

Dry alginate beads for fecal microbiota transplantation: From model strains to fecal samples.
Rakotonirina A, Galperine T, Audry M, Kroemer M, Baliff A, Carrez L, Sadeghipour F, Schrenzel J, Guery B, Allémann E.
Int J Pharm. 2023 May 25;639:122961. doi: 10.1016/j.ijpharm.2023.122961. Epub 2023 Apr 17.
PMID: 37075927

The Swiss Pathogen Surveillance Platform - towards a nation-wide One Health data exchange platform for bacterial, viral and fungal genomics and associated metadata.
Neves A, Walther D, Martin-Campos T, Barbie V, Bertelli C, Blanc D, Bouchet G, Erard F, Greub G, Hirsch HH, Huber M, Kaiser L, Leib SL, Leuzinger K, Lazarevic V, Mäusezahl M, Molina J, Neher RA, Perreten V, Ramette A, Roloff T, Schrenzel J, Seth-Smith HMB, Stephan R, Terumalai D, Wegner F, Egli A.
Microb Genom. 2023 May;9(5):mgen001001. doi: 10.1099/mgen.0.001001.
PMID: 37171846

Performance of the HiberGene Group B Streptococcus kit, a loop-mediated isothermal amplification-based assay for GBS screening during pregnancy.
Tittel-Elmer M, de Tejada BM, Renzi G, Schrenzel J.
Eur J Clin Microbiol Infect Dis. 2023 Feb;42(2):217-219. doi: 10.1007/s10096-022-04534-0. Epub 2022 Nov 30.
PMID: 36449147

Diagnostic test accuracy of an automated device for the MALDI target preparation for microbial identification.
Cherkaoui A, Riat A, Renzi G, Fischer A, Schrenzel J.
Eur J Clin Microbiol Infect Dis. 2023 Feb;42(2):153-159. doi: 10.1007/s10096-022-04531-3. Epub 2022 Dec 5.
PMID: 36469165

IVDR: Analysis of the Social, Economic, and Practical Consequences of the Application of an Ordinance of the In Vitro Diagnostic Ordinance in Switzerland.
Coste AT, Egli A, Schrenzel J, Nickel B, Zbinden A, Lienhard R, Dumoulin A, Risch M, Greub G; Coordinated Clinical Commission of Microbiology (CCCM).
Diagnostics (Basel). 2023 Sep 11;13(18):2910. doi: 10.3390/diagnostics13182910.
PMID: 37761277

Postpartum septic arthritis of pubic symphysis due to *Sneathia sanguinegens, Sneathia vaginalis, and Mageeibacillus indolicus*: Contribution of clinicalmetagenomics.
Nguyen A, Ferrero L, Lazarevic V, Gaia N, Martinez de Tejada B, Schrenzel J, Berkane N.
New Microbes New Infect. 2023 Mar 21;53:101112. doi: 10.1016/j.nmni.2023.101112. eCollection 2023 Jun.
PMID: 37065965

Quality of MALDI-TOF mass spectra in routine diagnostics: results from an international external quality assessment including 36 laboratories from 12 countries using 47 challenging bacterial strains.
Cuénod A, Aerni M, Bagutti C, Bayraktar B, Boz ES, Carneiro CB, Casanova C, Coste AT, Damborg P, van Dam DW, Demirci M, Drevinek P, Dubuis O, Fernandez J, Greub G, Hrabak J, Hürkal Yiğitler G, Hurych J, Jensen TG, Jost G, Kampinga GA, Kittl S, Lammens C, Lang C, Lienhard R, Logan J, Maffioli C, Mareković I, Marschal M, Moran-Gilad J, Nolte O, Oberle M, Pedersen M, Pflüger V, Pranghofer S, Reichl J, Rentenaar RJ, Riat A, Rodríguez-Sánchez B, Schilt C, Schlotterbeck AK, Schrenzel J, Troib S, Willems E, Wootton M, Ziegler D, Egli A; ESGMD study group.
Clin Microbiol Infect. 2023 Feb;29(2):190-199. doi: 10.1016/j.cmi.2022.05.017. Epub 2022 May 25.
PMID: 35623578

Evaluation of PhenoMATRIX and PhenoMATRIX PLUS for the screening of MRSA from nasal and inguinal/perineal swabs using chromogenic media.
Cherkaoui A, Renzi G, Schrenzel J.

J Clin Microbiol. 2024 Jan 17;62(1):e0115223. doi: 10.1128/jcm.01152-23. Epub 2023 Dec 21.
PMID: 38126761

Notes:
N/A

Attachments:
N/A

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms [9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The Bacteriological Laboratory, which is part of the University Hospitals of Geneva, is the Regional Competence Center for the primary analysis of bacteriological samples suspicious of a bioterror-related background. Protocols for the detection of bacteria causing anthrax, plague, tularemia and brucellosis have been established in close collaboration with the National Reference Center for Anthrax. Furthermore, there is a strong link between the Bacteriological Laboratory and the Genomic Research Laboratory that is almost exclusively executing basic and applied research projects under joint leadership. Translational research is actively promoted through this channel of cooperation.

For further information please visit (website in French):
https://www.hug-ge.ch/laboratoire-bacteriologie

1. What is the name of the facility?

Laboratoires de Diagnostic de l'Institut de Microbiologie (Diagnostic Laboratories of the Institute of Microbiology)

2. Where is it located (include both address and geographical location)?

Laboratoires de Diagnostic de l'Institut de Microbiologie, Département de Pathologie et Médecine de Laboratoire, Centre Hospitalier Universitaire Vaudois, Rue du Bugnon 48, CH-1011 Lausanne, Switzerland

N 46° 31' 30.57", E 6° 38' 29.15"

3. Floor area of laboratory areas by containment level:

BL 3: 93 SqM
BL 2: 596 SqM

Total laboratory floor area (SqM):

689

4. The organizational structure of each facility.

(i) Total number of personnel: 24

(ii) Division of personnel:
Military: 0
Civilian: 24

(iii) Division of personnel by category:
Scientists: 7
Engineers: 0
Technicians: 17
Administrative and support staff: 0

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Bacteriology, mycology, parasitology, virology, biosafety, bioinformatics.

(v) Are contractor staff working in the facility? If so, provide an approximate number.
0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Cantons of Fribourg, Genève, Neuchâtel, Valais, Vaud.

Research	0 %
Development	5 %
Test & Evaluation	10 %
Analysis / Diagnosis	50 %
Education & Training	15 % (costs for maintenance)
Other activities	20 %

(vii) What are the funding levels for the following programme areas:

Research: 0 %
Development: 5 %
Test and evaluation: 10 %

(viii) Briefly describe the publication policy of the facility:

Publication in open literature.

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references)

From microbiome composition to functional engineering, one step at a time.
Burz SD, Causevic S, Dal Co A, Dmitrijeva M, Engel P, Garrido-Sanz D, Greub G, Hapfelmeier S, Hardt W-D, Hatzimanikatis V, Heiman CM, Herzog MK-M, Hockenberry A, Keel C, Keppler A, Lee S-J, Luneau J, Malfertheiner L, Mitri S, Ngyuen B, Oftadeh O, Pacheco AR, Peaudecerf F, Resch G, Ruscheweyh H-J, Sahin A, Sanders IR, Slack E, Sunagawa S, Tackmann J, Tecon R, Ugolini GS, Vacheron J, van der Meer JR, Vayena E, Vonaesch P, Vorholt JA.Microbiol Mol Biol Rev. 2023 Dec 20;87(4):e0006323. doi: 10.1128/mmbr.00063-23. Epub 2023 Nov 10.
PMID: 37947420

Antigen rapid tests, nasopharyngeal PCR and saliva PCR to detect SARS-CoV-2: A prospective comparative clinical trial.
Schwob JM, Miauton A, Petrovic D, Perdrix J, Senn N, Gouveia A, Jaton K, Opota O, Maillard A, Minghelli G, Cornuz J, Greub G, Genton B, D'Acremont V.
PLoS One. 2023 Feb 24;18(2):e0282150. doi: 10.1371/journal.pone.0282150. eCollection 2023.
PMID: 36827328

Temporal changes in fecal microbiota of patients infected with COVID-19: a longitudinal cohort.
Galperine T, Choi Y, Pagani JL, Kritikos A, Papadimitriou-Olivgeris M, Méan M, Scherz V, Opota O, Greub G, Guery B, Bertelli C; RegCOVID Study Group.

BMC Infect Dis. 2023 Aug 18;23(1):537. doi: 10.1186/s12879-023-08511-6.
PMID: 37596518

Temperature Affects the Host Range of Rhabdochlamydia porcellionis.
Marquis B, Ardissone S, Greub G.
Appl Environ Microbiol. 2023 May 31;89(5):e0030923. doi: 10.1128/aem.00309-23. Epub 2023 Apr 12.
PMID: 37042763

A MALDI-TOF MS library for rapid identification of human commensal gut bacteria from the class *Clostridia*.
Asare PT, Lee CH, Hürlimann V, Teo Y, Cuénod A, Akduman N, Gekeler C, Afrizal A, Corthesy M, Kohout C, Thomas V, de Wouters T, Greub G, Clavel T, Pamer EG, Egli A, Maier L, Vonaesch P.
Front Microbiol. 2023 Feb 21;14:1104707. doi: 10.3389/fmicb.2023.1104707. eCollection 2023.
PMID: 36896425

Nanomotion technology in combination with machine learning: a new approach for a rapid antibiotic susceptibility test for Mycobacterium tuberculosis.
Vocat A, Sturm A, Jóźwiak G, Cathomen G, Świątkowski M, Buga R, Wielgoszewski G, Cichocka D, Greub G, Opota O.
Microbes Infect. 2023 Sep-Oct;25(7):105151. doi: 10.1016/j.micinf.2023.105151. Epub 2023 May 18.
PMID: 37207717

Performance of microbiological tests for tuberculosis diagnostic according to the type of respiratory specimen: A 10-year retrospective study.
Boldi MO, Denis-Lessard J, Neziri R, Brouillet R, von-Garnier C, Chavez V, Mazza-Stalder J, Jaton K, Greub G, Opota O.
Front Cell Infect Microbiol. 2023 Mar 2;13:1131241. doi: 10.3389/fcimb.2023.1131241. eCollection 2023.
PMID: 36936773

Swiss public health measures associated with reduced SARS-CoV-2 transmission using genome data.
Nadeau SA, Vaughan TG, Beckmann C, Topolsky I, Chen C, Hodcroft E, Schär T, Nissen I, Santacroce N, Burcklen E, Ferreira P, Jablonski KP, Posada-Céspedes S, Capece V, Seidel S, Santamaria de Souza N, Martinez-Gomez JM, Cheng P, Bosshard PP, Levesque MP, Kufner V, Schmutz S, Zaheri M, Huber M, Trkola A, Cordey S, Laubscher F, Gonçalves AR, Aeby S, Pillonel T, Jacot D, Bertelli C, Greub G, Leuzinger K, Stange M, Mari A, Roloff T, Seth-Smith H, Hirsch HH, Egli A, Redondo M, Kobel O, Noppen C, du Plessis L, Beerenwinkel N, Neher RA, Beisel C, Stadler T.
Sci Transl Med. 2023 Jan 25;15(680):eabn7979. doi: 10.1126/scitranslmed.abn7979. Epub 2023 Jan 25.
PMID: 36346321

Spontaneous Aberrant Bodies Formation in Human Pneumocytes Infected with *Estrella lausannensis*.
Rovero A, Kebbi-Beghdadi C, Greub G.
Microorganisms. 2023 Sep 22;11(10):2368. doi: 10.3390/microorganisms11102368.
PMID: 37894026

[Leptospirosis, the diagnostic challenge of an indigenous case].
Martelli F, Gay Des Combes Gliven P, De Vallière S, Favrat B, Greub G, Kokkinakis I.
Rev Med Suisse. 2023 May 10;19(826):916-919. doi: 10.53738/REVMED.2023.19.826.916.
PMID: 37162414 French.

Rectal shedding of monkeypox virus in a patient coinfected with Chlamydia trachomatis and Neisseria gonorrhoeae: a case report.
Desgranges F, Glampedakis E, Christinet V, Encarnação S, Fernandes C, Greub G, Opota O, Cavassini M.
J Med Case Rep. 2023 Mar 6;17(1):94. doi: 10.1186/s13256-023-03826-z.
PMID: 36872313

SARS-CoV-2 neutralizing antibody response in vaccinated and non-vaccinated hospital healthcare workers with or without history of infection.
Jacot D, von Rotz U, Pellaton C, Blondet F, Aebischer O, Perreau M, De Rham M, Pantaleo G, Marchetti O, Greub G.
Microbes Infect. 2023 Jan-Feb;25(1-2):105077. doi: 10.1016/j.micinf.2022.105077. Epub 2022 Nov 15.
PMID: 36400331

Use of gene sequences as type for naming prokaryotes: Recommendations of the international committee on the taxonomy of chlamydiae.
Greub G, Pillonel T, Bavoil PM, Borel N, Campbell LA, Dean D, Hefty S, Horn M, Morré SA, Ouellette SP, Pannekoek Y, Puolakkainen M, Timms P, Valdivia R, Vanrompay D.
New Microbes New Infect. 2023 Jun 21;54:101158. doi: 10.1016/j.nmni.2023.101158. eCollection 2023 Sep.
PMID: 37416863

The Swiss Pathogen Surveillance Platform - towards a nation-wide One Health data exchange platform for bacterial, viral and fungal genomics and associated metadata.
Neves A, Walther D, Martin-Campos T, Barbie V, Bertelli C, Blanc D, Bouchet G, Erard F, Greub G, Hirsch HH, Huber M, Kaiser L, Leib SL, Leuzinger K, Lazarevic V, Mäusezahl M, Molina J, Neher RA, Perreten V, Ramette A, Roloff T, Schrenzel J, Seth-Smith HMB, Stephan R, Terumalai D, Wegner F, Egli A.
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PMID: 37761277

Corrigendum: A MALDI-TOF MS library for rapid identification of human commensal gut bacteria from the class *Clostridia*.
Asare PT, Lee CH, Hürlimann V, Teo Y, Cuénod A, Akduman N, Gekeler C, Afrizal A, Corthesy M, Kohout C,

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PMID: 35623578

Notes:

N/A

Attachments:

N/A

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms [9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The Diagnostic Laboratories of the Institute of Microbiology, which are part of the University Hospital of Lausanne, are the Regional Competence Center for the primary analysis of samples suspicious of a bioterrorrelated background. Due to its other diagnostic activities, it is able to cover the whole spectrum of microbiology, namely virology, bacteriology, mycology and parasitology. Bacteriology also includes mycobacteriology, for which the Institute of Microbiology acts as a regional center.

Moreover, in 2017, we obtained the necessary funds for the up-grade and the expansion of our BSL3 level laboratory in the Institute of Microbiology. The construction started in September 2018 and finished in March 2020. During this period all these activities were carried out in the research BSL3 laboratory of our Institute according to the good laboratory practices recommended.

The BSL3 laboratory stand as the reference BSL3 laboratory of the hospital (CHUV) for the diagnosis and manipulation of BSL3 samples, strains, microorganisms that may be encountered in daily work as well as the samples of the environment for the regional laboratory network.

For further information please visit:
https://www.chuv.ch/en/microbiologie/imu-home/diagnostics/

1. What is the name of the facility?

Medizinische Mikrobiologie (Medical Microbiology)

2. Where is it located (include both address and geographical location)?

Medizinische Mikrobiologie, Zentrum für LaborMedizin, Luzerner Kantonsspital, Luzerner Kantonsspital Haus 47, Spitalstrasse, CH-6000 Luzern 16, Switzerland

N 47° 3' 32.45", E 8° 18' 1.17"

3. Floor area of laboratory areas by containment level:

BL 2: 716 SqM
BL 3: 62 SqM

Total laboratory floor area (SqM):

778

4. The organizational structure of each facility.

(i) Total number of personnel: 6

(ii) Division of personnel:
Military: 0
Civilian: 6

(iii) Division of personnel by category:
Scientists: 2
Engineers: 0
Technicians: 4
Administrative and support staff: 0

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Clinical microbiology (all disciplines; diagnostics and applied research).

(v) Are contractor staff working in the facility? If so, provide an approximate number.
0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Cantons of Luzern, Nidwalden, Obwalden, Schwyz, Uri.

Research	0 %
Development	0 %
Test & Evaluation	15 %
Analysis / Diagnosis	75 %
Education & Training	10 %
Other activities	0 %

(vii) What are the funding levels for the following programme areas:

Research: 0 %
Development: 0 %
Test and evaluation: 15 %

(viii) Briefly describe the publication policy of the facility:

Publication in open literature.

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references)

Suter Buser BJ, Herold M, Kaiser P, Arnold M, Obermann EC. Multiple infections in an immunocompromised patient-How cytology can help. *Cytopathology: official journal of the British Society for Clinical Cytology.* 2023;34(2):154-157.

Notes:
N/A

Attachments:
N/A

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms [9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The Department of Medical Microbiology, as part of the Zentrum für LaborMedizin, Luzerner Kantonsspital, is accredited (ISO / EN 17025) for clinical bacteriology, mycology, mycobacteriology, parasitology, molecular diagnostics, serology. The current focus of applied research activities is on specific bacteriological / molecular testing topics. In addition, it is the Regional Competence Center for primary analyses of samples suspicious of a bioterror-related background.

For further information please visit (website in German):
https://www.luks.ch/standorte/standort-luzern/labormedizin

1. What is the name of the facility?
Institut für Medizinische Mikrobiologie (Institute of Medical Microbiology)

2. Where is it located (include both address and geographical location)?
Institut für Medizinische Mikrobiologie, Medizinische Fakultät, Universität Zürich, Gloriastrasse 30/32, CH-8006 Zürich, Switzerland

N 47° 22' 36.20", E 8° 33' 11.18"

3. Floor area of laboratory areas by containment level:
BL 3: 20 SqM

Total laboratory floor area (SqM):
20

4. The organizational structure of each facility.

(i) Total number of personnel: 10

(ii) Division of personnel:
Military: 0
Civilian: 10

(iii) Division of personnel by category:
Scientists: 5
Engineers: 0
Technicians: 5
Administrative and support staff: 0

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Microbiology (bacteriology / mycology).

(v) Are contractor staff working in the facility? If so, provide an approximate number.
0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Cantons of Appenzell Ausserrhoden, Appenzell Innerrhoden, Glarus, Graubünden, Sankt Gallen, Schaffhausen, Thurgau, Zug, Zürich, and the Principality of Liechtenstein.

Research	15 %
Development	25 %
Test & Evaluation	30 %
Analysis / Diagnosis	15 %
Education & Training	15 %
Other activities	0 %

(vii) What are the funding levels for the following programme areas:

Research: 15 %
Development: 25 %
Test and evaluation: 30 %

(viii) Briefly describe the publication policy of the facility:

Publication in open literature.

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references)

SARS-CoV-2 Nucleocapsid Protein Mutations Found in Switzerland Disrupt N-Gene Amplification in Commonly Used Multiplex RT-PCR Assay.
Hilti D, Wehrli F, Roditscheff A, Risch M, Risch L, Egli A, Bodmer T, Wohlwend N (2023)
Pathogens 12: 1383

SARS-CoV-2 in an immunocompromised host: convalescent plasma therapy and viral evolution elucidated by whole genome sequencing.
Seth-Smith H, Vesenbeckh S, Egli A, Ott S (2023)
BMJ Case Rep 16: e255255

Surgical site infections after kidney transplantation are independently associated with graft loss.
Schreiber PW, Hoessly LD, Boggian K, Neofytos D, van Delden C, Egli A, Dickenmann M, Hirzel C, Manuel O, Koller M, Rossi S, Banz V, Schmied B, Guerke L, Matter M, de Rougemont O, Bonani M, Golshayan D, Schnyder A, Sidler D, Haidar F, Kuster SP, Stampf S, Mueller NJ; Swiss Transplant Cohort Study (STCS) (2023)
Am J Transplant: Online ahead of print

Broad Range Eubacterial Polymerase Chain Reaction of Cerebrospinal Fluid Reduces the Time to Exclusion of and Costs Associated with Ventriculostomy-Related Infection in Hemorrhagic Stroke.
Pietrzko E, Bögli S, Frick K, Ebner-Dietler S, Capone C, Imkamp F, Koliwer-Brandl H, Müller N, Keller E,

Brandi G (2023)
Neurocrit Care: Online ahead of print

Mycoplasma pneumoniae: delayed re-emergence after COVID-19 pandemic restrictions.
Meyer Sauteur PM, Beeton ML; European Society of Clinical Microbiology and Infectious Diseases (ESCMID) Study Group for Mycoplasma and Chlamydia Infections (ESGMAC), and the ESGMAC Mycoplasma pneumoniae Surveillance (MAPS) study group (2023)
Lancet Microbe: Online ahead of print

Investigation of an international water polo tournament in Czechia as a potential source for early introduction of the SARS-CoV-2 Omicron variant into Belgium, Switzerland and Germany, November 2021.
Rudin C, Bollen N, Hong SL, Wegner F, Politi L, Mellou K, Geenen C, Gorissen S, Verhasselt B, Durkin K, Henin C, Logist AS, Dellicour S, Resa T, Stadler T, Maes P, Cuypers L, André E, Egli A, Baele G (2023)
Euro Surveill 28: 2300018

Bacterial genome-wide association study substantiates papGII of Escherichia coli as a major risk factor for urosepsis.
Cuénod A, Agnetti J, Seth-Smith HMB, Roloff T, Wälchli D, Shcherbakov D, Akbergenov R, Tschudin-Sutter S, Bassetti S, Siegemund M, Nickel CH, Moran-Gilad J, Keys TG, Pflüger V, Thomson NR, Egli A (2023)
Genome Med 15: 89

Identification of microorganisms by a rapid PCR panel from positive blood cultures leads to faster optimal antimicrobial therapy - a before-after study.
Agnetti J, Büchler AC, Osthoff M, Helfenstein F, Weisser M, Siegemund M, Bassetti S, Bingisser R, Schaefer DJ, Clauss M, Hinic V, Tschudin-Sutter S, Bättig V, Khanna N, Egli A (2023)
BMC Infect Dis 23: 730

RNA recognition by Npl3p reveals U2 snRNA-binding compatible with a chaperone role during splicing.
Moursy A, Cléry A, Gerhardy S, Betz KM, Rao S, Mazur J, Campagne S, Beusch I, Duszczyk MM, Robinson MD, Panse VG, Allain FH (2023)
Nat Commun 14: 7166

The Legionella autoinducer LAI-1 is delivered by outer membrane vesicles to promote inter-bacterial and inter-kingdom signaling.
Fan M, Kiefer P, Charki P, Hedberg C, Seibel J, Vorholt JA, Hilbi H (2023)
J Biol Chem 299: 105376

Structural basis for triacylglyceride extraction from mycobacterial inner membrane by MFS transporter Rv1410.
Remm S, De Vecchis D, Schöppe J, Hutter CAJ, Gonda I, Hohl M, Newstead S, Schäfer LV, Seeger MA (2023)
Nat Commun 14: 6449

IVDR: Analysis of the Social, Economic, and Practical Consequences of the Application of an Ordinance of the In Vitro Diagnostic Ordinance in Switzerland
Coste AT, Egli A, Schrenzel J, Nickel B, Zbinden A, Lienhard R, Dumoulin A, Risch M, Greub G; Coordinated Clinical Commission of Microbiology (CCCM) (2023)
Diagnostics 13: 2910

Fourier-transform infrared spectroscopy for typing of vancomycin-resistant Enterococcus faecium: performance analysis and outbreak investigation.
Scheier TC, Franz J, Boumasmoud M, Andreoni F, Chakrakodi B, Duvnjak B, Egli A, Zingg W, Ramette A, Wolfensberger A, Kouyos RD, Brugger SD (2023)
Microbiol Spectr: Online ahead of print

High-Fluence Accelerated PACK-CXL for Bacterial Keratitis Using Riboflavin/UV-A or Rose Bengal/Green in the Ex Vivo Porcine Cornea.

Lu NJ, Koliwer-Brandl H, Hillen M, Egli A, Hafezi F (2023)
Transl Vis Sci Technol 12: 14

Phenolic Substitution in Fidaxomicin: A Semisynthetic Approach to Antibiotic Activity Across Species.
Jung E, Kraimps A, Dittmann S, Griesser T, Costafrolaz J, Mattenberger Y, Jurt S, Viollier PH, Sander P, Sievers S, Gademann K (2023)
Chembiochem: Online ahead of print

Older Adult Woman in a Coma After Acute Laryngitis.
Landerl A, Covaliova I, Ganter CC, Mancini S, David S, Andermatt R (2023)
Chest 164: e65-e69

Immunogenicity of High-Dose vs. MF59-adjuvanted vs. Standard Influenza Vaccine in Solid Organ Transplant Recipients: The STOP-FLU trial.
Mombelli M, Neofytos D, Huynh-Do U, Sánchez-Céspedes J, Stampf S, Golshayan D, Dahdal S, Stirnimann G, Schnyder A, Garzoni C, Venzin RM, Magenta L, Schönenberger M, Walti L, Hirzel C, Munting A, Dickenmann M, Koller M, Aubert JD, Steiger J, Pascual M, Mueller TF, Schuurmans M, Berger C, Binet I, Villard J, Mueller NJ, Egli A, Cordero E, van Delden C, Manuel O; Swiss Transplant Cohort Study (2023)
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Evaluation of the clinical relevance of the Biofire© FilmArray pneumonia panel among hospitalized patients.
Søgaard KK, Hinic V, Goldenberger D, Gensch A, Schweitzer M, Bättig V, Siegemund M, Bassetti S, Bingisser R, Tamm M, Battegay M, Weisser M, Stolz D, Khanna N, Egli A (2023)
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Evaluation of the RESIST ACINETO multiplex immunochromatographic assay for detection of OXA-23-like, OXA-40/58-like and NDM carbapenemase production in Acinetobacter baumannii.
Mancini S, Seth-Smith HMB, Kolesnik-Goldmann N, Hinic V, Roloff T, Imkamp F, Egli A (2023)
J Antimicrob Chemother 78: 2771-2774

Factors associated with non-carbapenemase mediated carbapenem resistance of Gram-negative bacteria: a retrospective case-control study.
Müller M, Wiencierz A, Gehringer C, Muigg V, Bassetti S, Siegemund M, Hinic V, Tschudin-Sutter S, Egli A (2023)
Int Microbiol: Online ahead of print

Comparison of Disk Diffusion, E-Test, and Broth Microdilution Methods for Testing In Vitro Activity of Cefiderocol in Acinetobacter baumannii.
Kolesnik-Goldmann N, Seth-Smith HMB, Haldimann K, Imkamp F, Roloff T, Zbinden R, Hobbie SN, Egli A, Mancini S (2023)
Antibiotics (Basel) 12: 1212

Engineered reporter phages for detection of Escherichia coli, Enterococcus, and Klebsiella in urine.
Meile S, Du J, Staubli S, Grossmann S, Koliwer-Brandl H, Piffaretti P, Leitner L, Matter CI, Baggenstos J, Hunold L, Milek S, Guebeli C, Kozomara-Hocke M, Neumeier V, Botteon A, Klumpp J, Marschall J, McCallin S, Zbinden R, Kessler TM, Loessner MJ, Dunne M, Kilcher S (2023)
Nat Commun 14: 4336

Synthesis of Gentamicins C1, C2, and C2a and Antiribosomal and Antibacterial Activity of Gentamicins B1, C1, C1a, C2, C2a, C2b, and X2.
Jana S, Rajasekaran P, Haldimann K, Vasella A, Böttger EC, Hobbie SN, Crich D (2023)
ACS Infect Dis: Online ahead of print

Tapping lipid droplets: A rich fat diet of intracellular bacterial pathogens.
Hüsler D, Stauffer P, Hilbi H (2023)
Mol Microbiol: Online ahead of print

ChatGPT, GPT-4, and other large language models - the next revolution for clinical microbiology?
Egli A (2023)
Clin Infect Dis: Online ahead of print

QUIRMIA—A Phenotype-Based Algorithm for the Inference of Quinolone Resistance Mechanisms in Escherichia coli.
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Antibiotics 12: 1119

Rapid antimicrobial susceptibility testing in patients with bacteraemia due to Enterobacterales: an implementation study.
Reiber C, Bodendoerfer E, Brugger SD, Eberhard N, Hitz E, Hofmaenner DA, Herren S, Kolesnik-Goldmann N, Manicini S, Zbinden R, Zinkernagel AS, Hasse B (2023)
Swiss Med Wkly 153: 40066

Reliability of the Galactomannan Enzyme-Linked Immunoassay in Healthy Preterm Infants: A Prospective Cohort Study.
Thomann J, Bryant MB, Gaertner VD, Marchesi M, Zbinden A, Zbinden R, Bassler D, Rüegger CM (2023)
J Pediatric Infect Dis Soc 12: 306-307

Spatiotemporal dissemination of ESBL-producing Enterobacterales in municipal sewer systems: a prospective, longitudinal study in the city of Basel, Switzerland.
Gómez-Sanz E, Bagutti C, Roth JA, Alt Hug M, García-Martín AB, Maurer Pekerman L, Schindler R, Furger R, Eichenberger L, Steffen I, Egli A, Hübner P, Stadler T, Aguilar-Bultet L, Tschudin-Sutter S (2023)
Front Microbiol 14: 1174336

In vitro and ex vivo proteomics of Mycobacterium marinum biofilms and the development of biofilm-binding synthetic nanobodies.
Hammarén MM, Luukinen H, Sillanpää A, Remans K, Lapouge K, Custódio T, Löw C, Myllymäki H, Montonen T, Seeger M, Robertson J, Nyman TA, Savijoki K, Parikka M (2023)
mSystems 8: e0107322

Pathogen vacuole membrane contact sites – close encounters of the fifth kind
Vormittag S, Ende RJ, Derré I, Hilbi H (2023)
MICROLIFE, Volume 4, 2023, uqad018

The large GTPase Sey1/atlastin mediates lipid droplet- and FadL-dependent intracellular fatty acid metabolism of Legionella pneumophila.
Hüsler D, Stauffer P, Keller B, Böck D, Steiner T, Ostrzinski A, Vormittag S, Striednig B, Swart AL, Letourneur F, Maaß S, Becher D, Eisenreich W, Pilhofer M, Hilbi H (2023)
Elife 12: e85142

Multifactorial resistance mechanisms associated with resistance to ceftazidime-avibactam in clinical Pseudomonas aeruginosa isolates from Switzerland.
Babouee Flury B, Bösch A, Gisler V, Egli A, Seiffert SN, Nolte O, Findlay J (2023)
Front Cell Infect Microbiol 13: 1098944

The Swiss Pathogen Surveillance Platform - towards a nation-wide One Health data exchange platform for bacterial, viral and fungal genomics and associated metadata.
Neves A, Walther D, Martin-Campos T, Barbie V, Bertelli C, Blanc D, Bouchet G, Erard F, Greub G, Hirsch HH, Huber M, Kaiser L, Leib SL, Leuzinger K, Lazarevic V, Mäusezahl M, Molina J, Neher RA, Perreten V, Ramette

A, Roloff T, Schrenzel J, Seth-Smith HMB, Stephan R, Terumalai D, Wegner F, Egli A (2023)
Microb Genom 9: mgen001001

Synthesis of 4-O-(4-Amino-4-deoxy-β-D-xylopyranosyl)paromomycin and 4-S-(β-D-Xylopyranosyl)-4-deoxy-4'-thio-paromomycin and Evaluation of their Antiribosomal and Antibacterial Activity.
Mohamad-Ramshan R, Ande C, Matsushita T, Haldimann K, Vasella A, Hobbie SN, Crich D (2023)
Tetrahedron 135: 133330

Imaging Flow Cytometry of Legionella-Containing Vacuoles in Intact and Homogenized Wild-Type and Mutant Dictyostelium.
Welin A, Hüsler D, Hilbi H (2023)
Methods Mol Biol 2635: 63-85

Automatic Discrimination of Species within the Enterobacter cloacae Complex Using Matrix-Assisted Laser Desorption Ionization-Time of Flight Mass Spectrometry and Supervised Algorithms.
Candela A, Guerrero-López A, Mateos M, Gómez-Asenjo A, Arroyo MJ, Hernandez-García M, Del Campo R, Cercenado E, Cuénod A, Méndez G, Mancera L, Caballero JD, Martínez-García L, Gijón D, Morosini MI, Ruiz-Garbajosa P, Egli A, Cantón R, Muñoz P, Rodríguez-Temporal D, Rodríguez-Sánchez B (2023)
J Clin Microbiol 61: e0104922

A systematic outbreak investigation of SARS-CoV-2 transmission clusters in a tertiary academic care center.
von Rotz M, Kuehl R, Durovic A, Zingg S, Apitz A, Wegner F, Seth-Smith HMB, Roloff T, Leuzinger K, Hirsch HH, Kuster S, Battegay M, Mariani L, Schaeren S, Bassetti S, Banderet-Uglioni F, Egli A, Tschudin-Sutter S (2023)
Antimicrob Resist Infect Control 12: 38

[Update on the zoonotic potential of Chlamydia].
Albini S, Marti H, Imkamp F, Borel N (2023)
Schweiz Arch Tierheilkd 165: 165-0

Factors impacting the pre-analytical quality of blood cultures-Analysis at a tertiary medical center.
Romann L, Werlen L, Rommers N, Hermann A, Gisler I, Bassetti S, Bingisser R, Siegemund M, Roloff T, Weisser M, Muigg V, Hinic V, Osthoff M, Franzeck FC, Egli A (2023)
PLoS One 18: e0282918

Legionnaires' disease in Switzerland: rationale and study protocol of a prospective national case-control and molecular source attribution study (SwissLEGIO).
Fischer FB, Bigler M, Mäusezahl D, Hattendorf J, Egli A, Julian TR, Rölli F, Gaia V, Wymann M, Fridez F, Bertschi S; SwissLEGIO Hospital Network (2023)
Infection: Online ahead of print

A MALDI-TOF MS library for rapid identification of human commensal gut bacteria from the class Clostridia.
Asare PT, Lee CH, Hürlimann V, Teo Y, Cuénod A, Akduman N, Gekeler C, Afrizal A, Corthesy M, Kohout C, Thomas V, de Wouters T, Greub G, Clavel T, Pamer EG, Egli A, Maier L, Vonaesch P (2023)
Front Microbiol 14: 1104707

Whole-genome-based characterization of Campylobacter jenuni from human patients with gastroenteritis collected over an 18 year period reveals increasing prevalence of antimicrobial resistance.
Ghielmetti G, Seth-Smith HMB, Roloff T, Cernela N, Biggel M, Stephan R, Egli A (2023)
Microb Genom 9: mgen000941

Evaluation of two rapid commercial assays for detection of Streptococcus agalactiae from vaginal samples.
Koliwer-Brandl H, Nil A, Birri J, Sachs M, Zimmermann R, Zbinden R, Balsyte D (2023)
Acta Obstet Gynecol Scand 102: 450-456

Importance of Co-operative Hydrogen Bonding in the Apramycin-Ribosomal Decoding A-Site Interaction.
Pirrone MG, Ande C, Haldimann K, Hobbie SN, Vasella A, Böttger EC, Crich D (2023)
ChemMedChem 18: e202200486

The Antibacterial Efficacy of High-Fluence PACK Cross-Linking Can Be Accelerated.
Lu NJ, Koliwer-Brandl H, Gilardoni F, Hafezi N, Knyazer B, Achiron A, Zbinden R, Egli A, Hafezi F (2023)
Transl Vis Sci Technol 12: 12

Aerococcus urinae - significance of detection in the paediatric urinary tract: a case series.
Rast D, Evers KS, Egli A, Rudin C, Goischke A, Ritz N (2023)
Eur J Pediatr 182: 749-756

PorinPredict: In silico Identification of OprD Loss from WGS Data for Improved Genotype-Phenotype Predictions of P. aeruginosa Carbapenem Resistance.
Biggel M, Johler S, Roloff T, Tschudin-Sutter S, Bassetti S, Siegemund M, Egli A, Stephan R, Seth-Smith HMB (2023)
Microbiol Spectr 11: e0358822

Legionella- and host-driven lipid flux at LCV-ER membrane contact sites promotes vacuole remodeling.
Vormittag S, Hüsler D, Haneburger I, Kroniger T, Anand A, Prantl M, Barisch C, Maaß S, Becher D, Letourneur F, Hilbi H (2023)
EMBO Rep 24: 56007

Longitudinal increase in the detection rate of Mycobacterium chimaera in heater-cooler device-derived water samples.
Schreiber PW, Zihlmann R, Schärer V, Hasse B, Imkamp F, Schulthess B, Sander P, Zingg W (2023)
J Hosp Infect 131: 190-193

Notes:

N/A

Attachments:

N/A

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms [9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The Institute of Medical Microbiology at the University of Zurich is the Regional Competence Center for the primary analysis of bacteriological samples suspicious of a bioterror-related background. This represents an additional and not a continuous task of the diagonstic laboratory proficient in bacteriology, mycology and serology. Research focusses on microbiome analysis, surveillance, vaccine and antibiotic development, protein structure analysis, host-pathogen interaction (Legionella, Mycobacteria), antibiotic resistance mechanisms and general aspects of translation.

For further information please visit (website in German):
http://www.imm.uzh.ch/index.html

1. What is the name of the facility?

Institut für Medizinische Virologie (Institute of Medical Virology)

2. Where is it located (include both address and geographical location)?

Institut für Medizinische Virologie, Medizinische Fakultät, Universität Zürich, Winterthurerstrasse 190, CH-8057 Zürich, Switzerland

N 47° 23' 52.08", E 8° 33' 01.92"

3. Floor area of laboratory areas by containment level:

BL 3: 25 SqM

Of note, the Institute of Medical Virology holds a BSL4 license for diagnostic purposes only, as follows: "Inactivation or extraction of environmental samples or samples containing potentially highly pathogenic viruses for diagnostic purposes".

Total laboratory floor area (SqM):

25

4. The organizational structure of each facility.

(i) Total number of personnel: 2

(ii) Division of personnel:
Military: 0
Civilian: 2

(iii) Division of personnel by category:
Scientists: 1
Engineers: 0
Technicians: 1
Administrative and support staff: 0

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Microbiology (virology).

(v) Are contractor staff working in the facility? If so, provide an approximate number.

0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Cantons of Appenzell Ausserrhoden, Appenzell Innerrhoden, Glarus, Graubünden, Sankt Gallen, Schaffhausen, Thurgau, Zug, Zürich, and the Principality of Liechtenstein.

Research	0 %
Development	0 %
Test & Evaluation	10 %
Analysis / Diagnosis	50 %
Education & Training	10 %
Other activities	30 % (costs for maintenance and amortization)

(vii) What are the funding levels for the following programme areas:

Research: 0 %
Development: 0 %
Test and evaluation: 10 %

(viii) Briefly describe the publication policy of the facility:

Publication in open literature.

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references)

Pichler, Ian; Schmutz, Stefan; Ziltener, Gabriela; Zaheri, Maryam; Kufner, Verena; Trkola, Alexandra; Huber, Michael (2023). Rapid and sensitive single-sample viral metagenomics using Nanopore Flongle sequencing. Journal of Virological Methods, 320:114784.

Jaha, Bashkim; Schenkel, Corinne D; Jörimann, Lisa; Huber, Michael; Zaheri, Maryam; Neumann, Kathrin; Leemann, Christine; Calmy, Alexandra; Cavassini, Matthias; Kouyos, Roger D; Günthard, Huldrych F; Metzner, Karin J; Swiss HIV Cohort Study (2023). Prevalence of HIV-1 drug resistance mutations in proviral DNA in the Swiss HIV Cohort Study, a retrospective study from 1995 to 2018. Journal of Antimicrobial Chemotherapy, 78(9):2323-2334.

Perakakis, Nikolaos; Harb, Hani; Hale, Benjamin G; Varga, Zsuzsanna; Steenblock, Charlotte; Kanczkowski, Waldemar; Alexaki, Vasileia Ismini; Ludwig, Barbara; Mirtschink, Peter; Solimena, Michele; Toepfner, Nicole; Zeissig, Sebastian; Gado, Manuel; Abela, Irene Alma; Beuschlein, Felix; Spinas, Giatgen A; Cavelti-Weder, Claudia; Gerber, Philipp A; Huber, Michael; Trkola, Alexandra; Puhan, Milo A; Wong, Wendy Wei-Lynn; Linkermann, Andreas; Mohan, Viswanathan; Lehnert, Hendrik; Nawroth, Peter; Chavakis, Triantafyllos; Mingrone, Geltrude; Wolfrum, Christian; Zinkernagel, Annelies S; et al (2023). Mechanisms and clinical relevance of the bidirectional relationship of viral infections with metabolic diseases. The Lancet. Diabetes & Endocrinology, 11(9):675-693.

Kristen-Burmann, Claudia; Rogger, Peter; Veiga, Inês Berenguer; Riebesehl, Stefanie; Rappe, Julie; Ebert, Nadine; Sautter, Carmen A; Kelly, Jenna N; Stalder, Hanspeter; Ehmann, Rosina; Huber, Michael; Posthaus, Horst; Ruggli, Nicolas; Thiel, Volker; Tekes, Gergely (2023). Reverse Genetic Assessment of the Roles Played by the Spike Protein and ORF3 in Porcine Epidemic Diarrhea Virus Pathogenicity. Journal of Virology, 97(7):e0196422.

Neves, Aitana; Walther, Daniel; Martin-Campos, Trinidad; Barbie, Valerie; Bertelli, Claire; Blanc, Dominique; Bouchet, Gérard; Erard, Frédéric; Greub, Gilbert; Hirsch, Hans H; Huber, Michael; Kaiser, Laurent; Leib, Stephen L; Leuzinger, Karoline; Lazarevic, Vladimir; Mäusezahl, Mirjam; Molina, Jorge; Neher, Richard A; Perreten, Vincent; Ramette, Alban; Roloff, Tim; Schrenzel, Jacques; Seth-Smith, Helena M B; Stephan, Roger; Terumalai, Dillenn; Wegner, Fanny; Egli, Adrian (2023). The Swiss Pathogen Surveillance Platform - towards a nation-wide One Health data exchange platform for bacterial, viral and fungal genomics and associated metadata. Microbial Genomics, 9(5):mgen001001.

Balakrishna, Suraj; Loosli, Tom; Zaheri, Maryam; Frischknecht, Paul; Huber, Michael; Kusejko, Katharina; Yerly, Sabine; Leuzinger, Karoline; Perreau, Matthieu; Ramette, Alban; Wymant, Chris; Fraser, Christophe; Kellam, Paul; Gall, Astrid; Hirsch, Hans H; Stoeckle, Marcel; Rauch, Andri; Cavassini, Matthias; Bernasconi, Enos; Notter, Julia; Calmy, Alexandra; Günthard, Huldrych F; Metzner, Karin J; Kouyos, Roger D (2023). Frequency matters: comparison of drug resistance mutation detection by Sanger and next-generation sequencing in HIV-1. Journal of Antimicrobial Chemotherapy, 78(3):656-664.

Labarile, Marco; Loosli, Tom; Zeeb, Marius; Kusejko, Katharina; Huber, Michael; Hirsch, Hans H; Perreau, Matthieu; Ramette, Alban; Yerly, Sabine; Cavassini, Matthias; Battegay, Manuel; Rauch, Andri; Calmy, Alexandra; Notter, Julia; Bernasconi, Enos; Fux, Christoph; Günthard, Huldrych F; Pasin, Chloé; Kouyos, Roger D; Swiss HIV Cohort Study (2023). Quantifying and predicting ongoing Human Immunodeficiency Virus Type 1 (HIV-1) transmission dynamics in Switzerland using a distance-based clustering approach. Journal of Infectious Diseases, 227(4):554-564.

Nadeau, Sarah A; Vaughan, Timothy G; Beckmann, Christiane; Topolsky, Ivan; Chen, Chaoran; Hodcroft, Emma; Schär, Tobias; Nissen, Ina; Santacroce, Natascha; Burcklen, Elodie; Ferreira, Pedro; Jablonski, Kim Philipp; Posada-Céspedes, Susana; Capece, Vincenzo; Seidel, Sophie; Santamaria de Souza, Noemi; Martinez-Gomez, Julia M; Cheng, Phil; Bosshard, Philipp P; Levesque, Mitchell P; Kufner, Verena; Schmutz, Stefan; Zaheri, Maryam; Huber, Michael; Trkola, Alexandra; Cordey, Samuel; Laubscher, Florian; Gonçalves, Ana Rita; Aeby, Sébastien; Pillonel, Trestan; et al (2023). Swiss public health measures associated with reduced SARS-CoV-2 transmission using genome data. Science Translational Medicine, 15(680):eabn7979.

Notes:

N/A

Attachments:

N/A

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms [9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The Institute of Medical Virology at the University of Zurich is the Regional Competence Center for the primary analysis of viral samples suspicious of a bioterror-related background. This represents an additional and not a continuous task of the viral diagnostics laboratory.

For further information please visit:
https://www.virology.uzh.ch/en.html

1. What is the name of the facility?

Kantonales Laboratorium Basel-Stadt (Cantonal Laboratory of Basel-Stadt)

2. Where is it located (include both address and geographical location)?

Kantonales Laboratorium Basel-Stadt, Bereich Gesundheitsschutz, Gesundheitsdepartement des Kantons Basel-Stadt, Kannenfeldstrasse 2, CH-4056 Basel, Switzerland

N 47° 33' 43.48", E 7° 34' 26.85"

3. Floor area of laboratory areas by containment level:

BL 2: 14 SqM
BL 3: 36 SqM

Total laboratory floor area (SqM):

50

4. The organizational structure of each facility.

(i) Total number of personnel: 4

(ii) Division of personnel:
Military: 0
Civilian: 4

(iii) Division of personnel by category:
Scientists: 2
Engineers: 0
Technicians: 2
Administrative and support staff: 0

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Microbiology, molecular biology, chemistry, inspection.

(v) Are contractor staff working in the facility? If so, provide an approximate number.
0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Cantons of Aargau, Basel-Landschaft, Basel-Stadt, Solothurn.

Research	0 %
Development	15 %
Test & Evaluation	40 %
Analysis / Diagnosis	40 %
Education & Training	5 %
Other activities	0 %

(vii) What are the funding levels for the following programme areas:

Research: 0 %
Development: 15 %
Test and evaluation: 40 %

(viii) Briefly describe the publication policy of the facility:

Publication in open literature and on homepage.

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references)

No publicly available papers or reports published in the reporting period.

Notes:

N/A

Attachments:

N/A

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms [9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The Cantonal Laboratory of Basel-Stadt is the regional centre of competence for the primary analysis of samples suspected of having a bioterrorist background. The Regional Laboratory North has also been appointed by the Federal Office for the Environment as a reference laboratory for the ESV (Containment Ordinance) and FrSV (Release Ordinance) (with the exception of plant pathogens).

We are co-author of the "Chemical inactivation of organisms in liquids - Guidelines for the chemical inactivation of organisms in liquid cultures or supernatants with proof of efficacy and safe disposal" attn. Federal Office of Public Health BAG. Our publication "Effectiveness of chemical inactivation of infectious liquid biological waste: a randomised sample study in research laboratories in Switzerland" has been accepted in J. Biosafety & Biosecurity.

Microbiological and molecular biological methods have been established to identify a wide range of viral and bacterial organisms in environmental samples, including Bacillus anthracis, Mycobacterium tuberculosis, HIV-1 lentiviruses, SARS-CoV-2, Dengue or Zika virus. We also analyse the prevalence of multi-resistant bacteria in

different matrices. Other methods for the detection of bioterror agents have been implemented in accordance with the Regional Laboratory Network.

For further information please visit (website in German):
http://www.kantonslabor.bs.ch/

1. What is the name of the facility?

Laboratorio Microbiologia Applicata (Laboratory of Applied Microbiology)

2. Where is it located (include both address and geographical location)?

Istituto Microbiologia, Dipartimento Ambiente Costruzioni e Design, Scuola Universitaria Professionale della Svizzera Italiana, Via Mirasole 22A, CH-6500
Bellinzona, Switzerland

N46° 11' 53.50", E9° 1' 10.25"

3. Floor area of laboratory areas by containment level:

BL 2: 185 SqM
BL 3: 38 SqM

Total laboratory floor area (SqM):

223

4. The organizational structure of each facility.

(i) Total number of personnel: 6

(ii) Division of personnel:
Military: 0
Civilian: 6

(iii) Division of personnel by category:
Scientists: 5
Engineers: 0
Technicians: 1
Administrative and support staff: 0

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Bacteriology, virology, mycology, molecular microbiology, microbial ecology, entomology, vector biology.

(v) Are contractor staff working in the facility? If so, provide an approximate number.
0

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Canton of Ticino.

Research	10 %
Development	10 %
Test & Evaluation	30 %
Analysis / Diagnosis	30 %
Education & Training	5 %
Other activities	15 % (administrative and maintenance costs)

(vii) What are the funding levels for the following programme areas:

Research: 10 %
Development: 10 %
Test and evaluation: 30 %

(viii) Briefly describe the publication policy of the facility:

Publication in open literature.

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references)

Zare-Shahraki M., P. Fathi, E. Ebrahimi Dorche, J. Flotemersch, K. Blocksom & A. Bruder (2024): Environmental impact assessment and conservation planning of a Middle Eastern River basin using a fish-based tolerance index. River Research and Applications. https://doi.org/10.1002/rra.4233

Spataro, V., Buetti-Dinh, A. Co-expression analysis of transcriptomic data from cancer and healthy specimens reveals rewiring of proteasome genes and an interaction with the XPO1 gene across several tumour types. transl med commun 9, 4 (2024). https://doi.org/10.1186/s41231-024-00163-1

Simaika, J. P., J. Stribling, J. Lento, A. Bruder, S. Poikane, M. S. Moretti, N. Rivers-Moore, K. Meissner, C. R. Macadam (2024): Towards harmonized standards for freshwater biodiversity monitoring and biological assessment using benthic macroinvertebrates. Science of the Total Environment 918: 170360

M. Cuomo; R. König; E. Zanardini; A. Di Guardo; E. Terzaghi; B.A. Kolvenbach; F. Demaria; P.F.X. Corvini; P. Principi (2024) Investigation of biologically active zeolite: Role of colonization in the removal of 14C-labelled sulfamethoxazole in wastewater Journal of Water Process Engineering DOI: 10.1016/j.jwpe.2024.104905

V. Spataro; A. Buetti-Dinh (2023): 102P Co-expression analysis of genes encoding proteasome subunits and XPO1-related proteins in the Cancer Genome Atlas (TCGA) and the Gene Tissue Expression (GTEx) databases as a tool to devise new treatment strategies. Open Access DOI:https://doi.org/10.1016/j.esmoop.2023.100960"

Cuomo, M.; König, R.; Zanardini, E.; Di Guardo, A.; Bianchi, G.; Ortona, A.; Principi, P. (2023) Using zeolite filters to reduce activated carbon use in micropollutant removal from wastewater Journal of Water Process Engineering DOI: 10.1016/j.jwpe.2023.104298

Roger König; Pamela Principi, Alexander Treichler; Rolf Warthmann, Giovanni Arioli, Laborex SA (2023): BIOGAS-PRODUKTION AUF KLEINEN BAUERNHÖFEN. EINE NEUE MOBILE BIOGAS-PILOTANLAGE MIT VORBEHANDLUNGS-OPTIONEN MACHT ES MÖGLICH. Aqua & Gas 11, 32-37

D. Ravasi, D. Parrondo Monton, M. Tanadini, V. Campana, and E. Flacio. Efficacy of biological larvicide VectoMax® FG against Aedes albopictus and Culex pipiens under field conditions in urban catch basins. Journal of the European Mosquito Control Association, Online Publication Date: 25 Oct 2023

D. Parrondo Monton, G. Würsch, L.G. Tanadini, M.T. Wyman, P.J. Haverkamp and E. Flacio Evaluation of the manhole physical pest management system UNFO-PLS for mosquito control in southern Switzerland. Journal of the European Mosquito Control Association, Online Pubblication Date: 15 Sep. 2023

Anicic N, Steigmiller K, Renaux C, Ravasi D, Tanadini M, Flacio E. Optical recognition of the eggs of four Aedine mosquito species (Aedes albopictus, Aedes geniculatus, Aedes japonicus, and Aedes koreicus). PLoS One. 2023 Nov 1;18(11):e0293568. doi: 10.1371/journal.pone.0293568.

Cazzin, S.; Liechti, N.; Jandrasits, D.; Flacio, E.; Beuret, C.; Engler, O.; Guidi, V. First Detection of West Nile Virus Lineage 2 in Mosquitoes in Switzerland, 2022. Pathogens 2023, 12, 1424. https://doi.org/10.3390/pathogens12121424

Pondeville E., Failloux A.B., Simard F., Volf P., Crisanti A., Haghighat-Khah R.E., Busquets N., Abad F.X., Wilson A.J., Bellini R., Marsh Arnaud S., Kohl A., Veronesi E. Infravec2 guidelines for the design and operation of containment level 2 and 3 insectaries in Europe, 2023. Pathog Glob Health 2023 May;117(3):293-307. https://doi.org/10.1080/20477724.2022.2108639 .

Fontana S., Ripellino P. , Niederhauser C., Widmer N., Gowland P., Petrini O., Aprile M., Merlani G. and Bihl F. (2023) Epidemiology of HEV Infection in Blood Donors in Southern Switzerland. Microorganisms 2023, 11, 2375. https://doi.org/10.3390/microorganisms11102375

Veronesi E., Paslaru A., Ettlin J., Ravasi D., Flacio E., Tanadini M. and Guidi V. (2023) Estimating the Impact of Consecutive Blood Meals on Vector Competence of Aedes albopictus for Chikungunya Virus. Pathogens. 12(6), 849; https://doi.org/10.3390/pathogens12060849

Mauri F, Pianta E (2023) Distribution and quantification of antibiotic resistance genes in a large subalpine lake (Lugano Lake) and tributary rivers. J Glob Antimicrob Resist 0–19. https://doi.org/10.1016/j.jgar.2023.04.012

Marie V. Brasseur, Jan Martini, Olivia Wilfling, Remo Wüthrich, Emil Birnstiel, Rebecca Oester, Vera M. A. Zizka, Gabriel Singer, Florian Leese & Simon Vitecek (2023). Exploring macroinvertebrate biodiversity in the dynamic southern Balkan stream network of the Vjosa using preservative-based DNA metabarcoding. Aquatic Sciences 85:51

Jan Martini, Franziska Walther, Tamara Schenekar, Emil Birnstiel, Remo Wüthrich, Rebecca Oester, Bernadette Schindelegger, Thea Schwingshackl, Olivia Wilfling, Florian Altermatt, Matthew V Talluto, Gabriel Singer, Simon Vitecek (2023). The last hideout: Abundance patterns of the not-quite-yet extinct mayfly Prosopistoma pennigerum in the Albanian Vjosa River network. Insect Converservation and Diversity 16(2): 285-297

Langehennig-Peristenidou, A., Romero-Mujalli, D., Bergmann, T., & Scheumann, M. (2023). Features of animal babbling in the vocal ontogeny of the gray mouse lemur (Microcebus murinus). Scientific reports, 13(1), 21384.

dos Reis Oliveira P., M. S. Moretti, A. Janssen & A. Bruder (2023): Flusssysteme: Die Ableitung eines Ökozidrahmens. In T. Pfaff (ed.): Ökozid: Wie ein Gesetz schwere Umweltschäden bestrafen und Lebensgrundlagen besser schützen kann. oekom- Verlag, München

Andrew Gonzalez, Petteri Vihervaara, Patricia Balvanera, et al. A global biodiversity observing system to unite monitoring and guide action. Nat. Ecol. Evol. (2023). doi:10.1038/s41559-023-02171-0

Shahraki, M. Z. Y. Keivany, E. Ebrahimi Dorche, K. Blocksom, A. Bruder, J. Flotemersch & D. Banaduc: Distribution and expansion of alien fish species in the Karun River Basin, Iran. Fishes 8, (2023).

Esmaeili Ofogh, A. R., Ebrahimi Dorche, E., Birk, S. & Bruder, A. Effect of seasonal variability on the development and application of a novel Multimetric Index based on benthic macroinvertebrate communities – A case study from streams in the Karun river basin (Iran). Ecol. Indic. 146, 109843 (2023).

Consoli, G., Siebers, A. R., Bruder, A. & Robinson, C. T. Long-term reconstruction of energy fluxes in an alpine river: Effects of flow regulation and restoration. River Res. Appl. 39 (9), 1783-1794 (2023).

Capelli C., Mauri F., Pianta E., Rotta F. and Lepori F. (2023) Environmental DNA survey indicates arrival of quagga mussel in Ticino River basin. J. Limnol. 82: 2105-2110.

Notes:

N/A

Attachments:

N/A

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms [9] and/or toxins studied, as well as outdoor studies of biological aerosols.

The Istituto Microbiologia is the center of reference in the field of microbiology south of the Alps. Aspects of public health, environmental hygiene, microbial ecology and biotechnology converge in a unified vision of microbiology that considers human, animal and environmental health as a whole in a larger concept of "one health". The Istituto Microbiologia is the Regional Competence Center South of Alps for the primary analysis of samples suspicious of a bioterror-related background.
For further information please visit (website in Italian): http://www.supsi.ch/im

Confidence-Building Measure "B"

Exchange of information on outbreaks of infectious diseases and similar occurrences caused by toxins

At the Third Review Conference it was agreed that States Parties continue to implement the following:

> Exchange of information on outbreaks of infectious diseases and similar occurrences caused by toxins, and on all such events that seem to deviate from the normal pattern as regards type, development, place, or time of occurrence. The information provided on events that deviate from the norm will include, as soon as it is available, data on the type of disease, approximate area affected, and number of cases.

The Seventh Review Conference agreed the following:

> No universal standards exist for what might constitute a deviation from the normal pattern.

Modalities

The Third Review Conference agreed on the following, later amended by the Seventh Review Conference:

1. Exchange of data on outbreaks that seem to deviate from the normal pattern is considered particularly important in the following cases:

> - When the cause of the outbreak cannot be readily determined or the causative agent [10] is difficult to diagnose,
>
> - When the disease may be caused by organisms which meet the criteria for risk groups III or IV, according to the classification in the latest edition of the WHO Laboratory Biosafety Manual,
>
> - When the causative agent is exotic to a given geographical region,
>
> - When the disease follows an unusual pattern of development,
>
> - When the disease occurs in the vicinity of research centres and laboratories subject to exchange of data under item A,
>
> - When suspicions arise of the possible occurrence of a new disease.

2. In order to enhance confidence, an initial report of an outbreak of an infectious disease or a similar occurrence that seems to deviate from the normal pattern should be given promptly after cognizance of the outbreak and should be followed up by annual reports. To enable States Parties to follow a standardized procedure, the Conference has agreed that Form B should be used, to the extent information is known and/or applicable, for the exchange of annual information.

3. The declaration of electronic links to national websites or to websites of international, regional or other organizations which provide information on disease outbreaks (notably outbreaks of infectious diseases and similar occurrences caused by toxins that seem to deviate from the normal pattern) may also satisfy the declaration requirement under Form B.

4. In order to improve international cooperation in the field of peaceful bacteriological (biological) activities and in order to prevent or reduce the occurrence of ambiguities, doubts and suspicions, States Parties are encouraged to invite experts from other States Parties to assist in the handling of an outbreak, and to respond favourably to such invitations, respecting applicable national legislation and relevant international instruments.

Form B

Information on outbreaks of infectious diseases and similar occurrences, that seem to deviate from the normal pattern[11]

Human diseases

1. Time of cognizance of the outbreak:
N/A

2. Location and approximate area affected:

N/A

3. Type of disease/intoxication:
N/A

4. Suspected source of disease/intoxication:
N/A

5. Possible causative agent(s):
N/A

6. Main characteristics of systems:
N/A

7. Detailed symptoms, when applicable
N/A

- Respiratory:
N/A

- Circulatory:
N/A

- Neurological/behavioural:
N/A

- Intestinal:
N/A

- Dermatological:
N/A

- Nephrological:
N/A

- Other:
N/A

8. Deviation(s) from the normal pattern as regards

- Type:
N/A

- Development:
N/A

- Place of occurrence:
N/A

- Time of occurrence:

- Symptoms:
N/A

- Virulence pattern:
N/A

- Drug resistance pattern:
N/A

- Agent(s) difficult to diagnose:
N/A
- Presence of unusual vectors:
N/A

- Other:
N/A

9. Approximate number of primary cases:
N/A

10. Approximate number of total cases:
N/A

11. Number of deaths:

N/A

12. Development of the outbreak:

N/A

13. Measures taken:
N/A

Notes:

The Swiss Federal Office of Public Health (FOPH) is responsible for the surveillance and reporting of human diseases. A nationwide notification system is regulated by the Ordinance on the Declaration of Observations of Communicable Human Diseases (RS 818.101.126 Ordonnance du DFI du 1 décembre 2015 sur la déclaration d'observations en rapport avec les maladies transmissibles de l'homme), which is based on the Federal Act on the Control of Communicable Human Diseases (RS 818.101 Loi fédérale du 28 septembre 2012 sur la lutte contre les maladies transmissibles de l'homme). Every medical practitioner and laboratory is obliged to report the occurrence or identification of certain notifiable diseases. The current situation is accessible online and data is transmitted to the World Health Organization (WHO):
https://www.bag.admin.ch/bag/de/home/zahlen-und-statistiken/zahlen-zu-infektionskrankheiten/meldepflichtige-infektionskrankheiten---woechentliche-fallzahlen.html

Updated data on infectious diseases in Switzerland can be found here:
https://idd.bag.admin.ch/

No outbreaks of infectious diseases or similar occurrences that seemed to deviate from the normal pattern in terms of animal diseases were observed during the reporting period.

Attachments:
N/A

Animal diseases

1. Time of cognizance of the outbreak:

N/A

2. Location and approximate area affected:

N/A

3. Type of disease/intoxication:
N/A

4. Suspected source of disease/intoxication:
N/A

5. Possible causative agent(s):
N/A

6. Main characteristics of systems:
N/A

7. Detailed symptoms, when applicable
N/A

- Respiratory:
N/A

- Circulatory:
N/A

- Neurological/behavioural:
N/A

- Intestinal:
N/A

- Dermatological:
N/A

- Nephrological:
N/A

- Other:
N/A

8. Deviation(s) from the normal pattern as regards

- Type:

N/A

- Development:
N/A

- Place of occurrence:
N/A

- Time of occurrence:

N/A

- Symptoms:
N/A

- Virulence pattern:
N/A

- Drug resistance pattern:
N/A

- Agent(s) difficult to diagnose:
N/A

- Presence of unusual vectors:
N/A

- Other:
N/A

9. Approximate number of primary cases:
N/A

10. Approximate number of total cases:
N/A

11. Number of deaths:

N/A

12. Development of the outbreak:

N/A

13. Measures taken:
N/A

Notes:

The Swiss Federal Food Safety and Veterinary Office (FSVO) is responsible for the surveillance and reporting of animal diseases. According to the Federal Law on Animal Epidemics (*RS 916.40 Loi du 1er juillet 1966 sur les épizooties*) and the corresponding ordinance (*RS 916.401 Ordonnance du 27 juin 1995 sur les épizooties*), notifiable animal diseases have to be reported to the FSVO which in turn is responsible for the reporting to the World Organization for Animal Health (WOAH). The current situation is accessible online:
https://www.infosm.blv.admin.ch/bulletin

No outbreaks of infectious diseases or similar occurrences that seemed to deviate from the normal pattern in terms of animal diseases were observed during the reporting period.

Attachments:
N/A

Plant diseases and pests

1. Time of cognizance of the outbreak:
N/A

2. Location and approximate area affected:

N/A

3. Type of disease/intoxication:
N/A

4. Suspected source of disease/intoxication:
N/A

5. Possible causative agent(s):
N/A

6. Main characteristics of systems:
N/A

7. Detailed symptoms, when applicable
N/A

- Respiratory:
N/A

- Circulatory:
N/A

- Neurological/behavioural:
N/A

- Intestinal:
N/A

- Dermatological:
N/A

- Nephrological:
N/A

- Other:
N/A

8. Deviation(s) from the normal pattern as regards

- Type:
N/A

- Development:

N/A

- Place of occurrence:
N/A

- Time of occurrence:

- Symptoms:
N/A

- Virulence pattern:
N/A

- Drug resistance pattern:
N/A

- Agent(s) difficult to diagnose:
N/A

- Presence of unusual vectors:
N/A

- Other:
N/A

9. Approximate number of primary cases:
N/A

10. Approximate number of total cases:
N/A

11. Number of deaths:

N/A

12. Development of the outbreak:

N/A

13. Measures taken:
N/A

Notes:

The Swiss Federal Plant Protection Service (FPPS) is responsible for any kind of phytosanitary measures in order to prevent the introduction and spread of particularly harmful pests and diseases that affect plants and plant products. The FPPS is run jointly by the Swiss Federal Office for Agriculture (FOAG) and the Swiss Federal Office for the Environment (FOEN). The FOAG is responsible for the sector of agricultural and horticultural crops, whereas the FOEN is responsible for forest plants, wood and wood products, including invasive plants. According to the Federal Law on Agriculture (*RS 910.1 Loi fédérale du 29 avril 1998 sur l'agriculture*) and the corresponding ordinance (*RS 916.20 Ordonnance du 31 octobre 2018 sur la protection des végétaux contre les organismes nuisibles particulièrement dangereux*), notifiable plant diseases and pests are reported to either the FOAG or the FOEN that transmit reports to the European and Mediterranean Plant Protection Organization (EPPO). Reporting of invasive plants to the FOEN, which then communicates with the EPPO, is primarily regulated in the Ordinance on the Release of Organisms into the Environment (*RS 814.911 Ordonnance du 10 septembre 2008 sur l'utilisation d'organismes dans l'environnement*).

Information on outbreaks of infectious diseases and similar occurrences that seem to deviate from the normal pattern in terms of plant diseases and pests that occurred during the reporting period is provided in the form of short descriptions of notifications made by the National Plant Protection Organisation of Switzerland to the EU Commission by means of the EUROPHYT-Outbreak system as follows:

Europhyt Outbreak No.	Pest	Host plant / Soil / Trap / Greenhouse	Month	Year
2120	*Hypothenemus eruditus*	Trap	February	2023
2162	*Ceratocystis platani*	Platanus spp.	April	2023
2191	ToBRFV	*Solanum lycopersicum*	May	2023
1896	*Anoplophora glabripennis*	Ulmus, *Sorbus aucuparia, Juglans regia*	May	2023
632	Grapevine Flavescence dorée phytoplasma	*Vitis vinifera*	May	2023
2202	ToBRFV	*Solanum lycopersicum*	June	2023
2211	*Meloidogyne enterolobii*	Soil (greenhouse)	June	2023
2218	*Ceratocystis platani*	Platanus spp.	July	2023
1896	*Anoplophora glabripennis*	Prunus spp., *Juglans sp. Sorbus sp.*	July	2023
2219	ToBRFV	*Solanum lycopersicum*	July	2023
2234	*Popillia japonica*	Trap / on plants	July	2023
2245	TOBRFV	*Solanum lycopersicum*	July	2023
1499	*Popillia japonica*	Trap	July	2023
2299	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	July	2023
2251	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	August	2023
2263	*Popillia japonica*	Trap / on plants	August	2023
2269	*Popillia japonica*	Trap	August	2023
2275	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	August	2023
2277	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	August	2023
2278	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	August	2023
2279	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	August	2023
2280	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	August	2023
2281	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	August	2023
2282	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	August	2023
2283	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	August	2023
2284	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	August	2023
2276	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	August	2023
2285	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	August	2023
2357	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	September	2023

2489	Grapevine Flavescence dorée phytoplasma	*Vitis vinifera*	September	2023
2296	*Meloidogyne fallax*	Soil (greenhouse)	September	2023
2299	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	September	2023
2326	*Globodera rostochiensis*	Soil	September	2023
2357	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	October	2023
2388	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	October	2023
2389	*Ralstonia pseudosolanacearum*	*Zingiber officinale*	October	2023
2470	ToBRFV	*Solanum lycopersicum*	October	2023
2471	ToBRFV	*Solanum lycopersicum*	October	2023
2368	*Globodera pallida*	Soil	October	2023
2367	*Melodogyne fallax*	Soil (greenhouse)	October	2023
2427	*Melodogyne fallax*	Soil (greenhouse)	November	2023
2460	*Ceratocystis platani*	Platanus spp.	December	2023
2461	*Globodera rostochiensis*	Soil	December	2023

Attachments:

N/A

Confidence-Building Measure "C"

Encouragement of publication of results and promotion of use of knowledge

At the Third Review Conference it was agreed that States parties continue to implement the following:

> Encouragement of publication of results of biological research directly related to the Convention, in scientific journals generally available to States parties, as well as promotion of use for permitted purposes of knowledge gained in this research.

Modalities

The Third Review Conference agreed on the following:

1. It is recommended that basic research in biosciences, and particularly that directly related to the Convention should generally be unclassified and that applied research to the extent possible, without infringing on national and commercial interests, should also be unclassified.

2. States parties are encouraged to provide information on their policy as regards publication of results of biological research, indicating, inter alia, their policies as regards publication of results of research carried out in research centres and laboratories subject to exchange of information under item A and publication of research on outbreaks of diseases covered by item B, and to provide information on relevant scientific journals and other relevant scientific publications generally available to States parties.

3. The Third Review Conference discussed the question of cooperation and assistance as regards the safe handling of biological material covered by the Convention. It concluded that other international forums were engaged in this field and expressed its support for efforts aimed at enhancing such cooperation.

Comments:

Switzerland does not impose any restrictions on the publication of basic and applied research in biosciences related to the Convention:

- CBM “A”:
  No restrictions implemented on the publication of research carried out within the frameworks of the National Biological Defense Program and the Regional Laboratory Network as well as their contractors.
- CBM “B”:
  No restrictions implemented on the publication of research. Full cooperation with international organizations (WHO, WOAH, EPPO) in their respective frameworks.
- CBM “G”:
  Public institutions (universities, institutes, hospitals, state-run facilities): No restrictions implemented on the publication of research.
  Private companies: Publication of research is encouraged, however, companies are responsible for their own publication policy that are in line with the protection of any commercial interests.

Publishers of scientific and medical journals and other publications based in Switzerland:

Birkhäuser Verlag AG, Basel: https://www.springer.com/gp/birkhaeuser
EMH Schweizerischer Ärzteverlag AG, Muttenz: https://emh.ch/en/
Frontiers Media SA, Lausanne: https://www.frontiersin.org/
Inderscience Publishers, Genève: https://www.inderscience.com/
MDPI AG, Basel: https://www.mdpi.com/
S. Karger AG, Basel: https://www.karger.com/
WHO Press, Genève: http://apps.who.int/bookorders

Confidence-Building Measure "D"

(Deleted)

Confidence-Building Measure "E"

Declaration of legislation, regulations and other measures

At the Third Review Conference the States parties agreed to implement the following, later amended by the Seventh Review Conference:

As an indication of the measures which they have taken to implement the Convention, States parties shall declare whether they have legislation, regulations or other measures:

(a) To prohibit and prevent the development, production, stockpiling, acquisition or retention of the agents, toxins, weapons, equipment and means of delivery specified in Article I of the Convention, within their territory or anywhere under their jurisdiction or under their control anywhere;

(b) In relation to the export or import of micro-organisms pathogenic to man, animals and plants or of toxins in accordance with the Convention;

(c) In relation to biosafety and biosecurity.

States parties shall complete the attached form (Form E) and shall be prepared to submit copies of the legislation or regulations, or written details of other measures on request to the Implementation Support Unit (ISU) within the United Nations Office for Disarmament Affairs or to an individual State party. On an annual basis States parties shall indicate, also on the attached form, whether or not there has been any amendment to their legislation, regulations or other measures.

Form E

Declaration of legislation, regulations and other measures

Relating to	*Legislation*	*Regulations*	*Other measures*[12]	*Amended since last year*
(a) Development, production stockpiling, acquisition or retention of microbial or other biological agents, or toxins, weapons, equipment and means of delivery specified in Article I	yes	yes	yes	yes
(b) Exports of micro-organisms[13] and toxins	yes	yes	yes	yes
(c) Imports of micro-organisms[13] and toxins	yes	yes	yes	yes
(d) Biosafety[14] and biosecurity[15]	yes	yes	yes	yes

Additional information to Form E:

Switzerland adheres to a monistic system, i.e. treaties of international law become effective upon ratification and are part of the Swiss Federal Legislation. This fact is reflected as follows:

Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (*RS 0.515.07 Convention du 10 avril 1972 sur l'interdiction de la mise au point, de la fabrication et du stockage des armes bactériologiques (biologiques) ou à toxines et sur leur destruction*)
https://www.fedlex.admin.ch/eli/cc/1976/1438_1439_1439/fr

Protocol for the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare (*RS 0.515.105 Protocole du 17 juin 1925 concernant la prohibition d'emploi à la guerre de gaz asphyxiants, toxiques ou similaires et de moyens bactériologiques*)
https://www.fedlex.admin.ch/eli/cc/48/375_387_405/fr

Legislation and regulations concerned with the implementation of the Convention in Switzerland is detailed as follows:

Federal Constitution of the Swiss Confederation (*RS 101 Constitution fédérale de la Confédération suisse du 18 avril 1999*)
https://www.fedlex.admin.ch/eli/cc/1999/404/fr

Federal Act on Measures Ensuring Homeland Security (*RS 120 Loi fédérale du 21 mars 1997 instituant des mesures visant au maintien de la sûreté intérieure*)
https://www.fedlex.admin.ch/eli/cc/1998/1546_1546_1546/fr

Ordinance on the Intelligence Service (*RS 121.1 Ordonnance du 16 août 2017 sur le Service de renseignement*)
https://www.fedlex.admin.ch/eli/cc/2017/495/fr

Ordinance on Information and Storage Systems of the Intelligence Service of the Confederation (*RS 121.2 Ordonnance du 16 août 2017 sur les systèmes d'information et les systèmes de stockage de données du Service de renseignement de la Confédération*)
https://www.fedlex.admin.ch/eli/cc/2017/496/fr

Ordinance on the Federal Expert Commission for Biosafety (*RS 172.327.8 Ordonnance du 20 novembre 1996 sur la Commission fédérale d'experts pour la sécurité biologique*)
https://www.fedlex.admin.ch/eli/cc/1997/6_6_6/fr
Establishes the roles of the Federal Commission of Experts for Biological Security to ensure the protection of the Swiss population against transmissible diseases, the health of workers, and the protection of animals and plants and their environments.

Swiss Criminal Code (*RS 311.0 Code pénal suisse du 21 décembre 1937*)
https://www.fedlex.admin.ch/eli/cc/54/757_781_799/fr

Swiss Code of Criminal Procedure (*RS 312.0 Code de procédure pénale suisse du 5 octobre 2007*)
https://www.fedlex.admin.ch/eli/cc/2010/267/fr

Ordinance on the Communication of Penal Decisions Taken by Cantonal Authorities (*RS 312.3 Ordonnance du 10 novembre 2004 réglant la communication des décisions pénales prises par les autorités cantonales*)
https://www.fedlex.admin.ch/eli/cc/2004/729/fr

Military Criminal Code (*RS 321.0 Code pénal militaire du 13 juin 1927*)
https://www.fedlex.admin.ch/eli/cc/43/359_375_369/fr

Federal Act on International Legal Aid in Criminal Cases (*RS 351.1 Loi fédérale du 20 mars 1981 sur l'entraide internationale en matière pénale*)
https://www.fedlex.admin.ch/eli/cc/1982/846_846_846/fr

Federal Act on Main Offices of Criminal Investigation Departments of the Confederation (*RS 360 Loi fédérale du 7 octobre 1994 sur les Offices centraux de police criminelle de la Confédération*)
https://www.fedlex.admin.ch/eli/cc/1995/875_875_875/fr

Ordinance on the Information System of the Federal Criminal Police (*RS 360.2 Ordonnance du 15 octobre 2008 sur le système informatisé de la Police judiciaire fédérale*)
https://www.fedlex.admin.ch/eli/cc/2008/697/fr

Ordinance on the National Central Bureau Interpol Bern (*RS 366.1 Ordonnance du 21 juin 2013 concernant le Bureau central national Interpol Bern*)
https://www.fedlex.admin.ch/eli/cc/2013/466/fr

Ordinance on the Coordinated Medical Service (*RS 501.31 Ordonnance du 27 avril 2005 sur le Service sanitaire coordonné*)
https://www.fedlex.admin.ch/eli/cc/2005/345/fr

Federal Act on the Army and the Military Administration (*RS 510.10 Loi fédérale du 3 février 1995 sur l'armée et l'administration militaire*)
https://www.fedlex.admin.ch/eli/cc/1995/4093_4093_4093/fr

Ordinance on Measures Taken by the Army against Human and Animal Epidemics (*RS 510.35 Ordonnance du 25 octobre 1955 concernant les mesures à prendre par l'armée contre les épidémies et épizooties*)
https://www.fedlex.admin.ch/eli/cc/1955/863_885_893/fr

Ordinance on Domestic Disaster Management by the Army (*RS 513.75 Ordonnance du 21 novembre 2018 sur l'aide militaire en cas de catastrophe dans le pays*)
https://www.fedlex.admin.ch/eli/cc/2018/731/fr

Federal Act on War Material (*RS 514.51 Loi fédérale du 13 décembre 1996 sur le materiel de guerre*)
https://www.fedlex.admin.ch/eli/cc/1998/794_794_794/fr
Prohibits the development, production, indirect transfer, acquisition, import, export, transit and stockpiling of nuclear, biological or chemical weapons under Article 7. It prohibits any action committed by any person who has any connection to the acquisition of WMD. This article also applies to offences committed abroad if they are in violation of international law, which is binding in Switzerland.

Ordinance on War Material (*RS 514.511 Ordonnance du 25 février 1998 sur le matériel de guerre*)
https://www.fedlex.admin.ch/eli/cc/1998/808_808_808/fr
Regulates the initial authorisation and the specific authorisations that are required for the manufacture, the brokerage, the import, the export and the transit of war materials, as well as the conclusion of contracts to transfer incorporeal property, including know-how and the concession of related rights. Applies in Switzerland customs area, to Swiss customs warehouses and Swiss customs enclaves.

Federal Act on the Protection of the Population and Civil Protection (*RS 520.1 Loi fédérale du 20 décembre 2019 sur la protection de la population et sur la protection civile*)
https://www.fedlex.admin.ch/eli/cc/2020/887/fr

Ordinance on the Civil Protection (*RS 520.12 Ordonnance du 11 novembre 2020 sur la protection de la population*)
https://www.fedlex.admin.ch/eli/cc/2020/889/fr

Ordinance on the Federal Staff Civil Protection (*RS 520.17 Ordonnance du 2 mars 2018 sur l'État-major fédéral Protection de la population*)
https://www.fedlex.admin.ch/eli/cc/2018/162/fr

Federal Act on Customs (*RS 631.0 Loi du 18 mars 2005 sur les douanes*)
https://www.fedlex.admin.ch/eli/cc/2007/249/fr

Ordinance on Customs (*RS 631.01 Ordonnance du 1er novembre 2006 sur les douanes*)
https://www.fedlex.admin.ch/eli/cc/2007/250/fr

Ordinance on the Transportation of Hazardous Goods on the Road (*RS 741.621 Ordonnance du 29 novembre 2002 relative au transport des marchandises dangereuses par route*)
https://www.fedlex.admin.ch/eli/cc/2002/685/fr
Regulates the transport of dangerous materials by automobiles or other mediums of transport on roads open to those same vehicles.

Ordinance on Hazardous Goods Representatives for the Transportation of Hazardous Goods on the Road, by Air or by Sea (*RS 741.622 Ordonnance du 15 juin 2001 sur les conseillers à la sécurité pour le transport de marchandises dangereuses par route, par rail ou par voie navigable*)
https://www.fedlex.admin.ch/eli/cc/2001/268/fr
Determines the appointment, tasks, training and examination of persons charged with reducing risks to people, property and the environment during transportation of hazardous goods or packaging operations, shipment or loading and unloading associated with this transport.

Ordinance on the Transportation of Hazardous Goods by Railway and Aerial Railway (*RS 742.412 Ordonnance du 31 octobre 2012 sur le transport de marchandises dangereuses par chemin de fer et par installation à câbles*)
https://www.fedlex.admin.ch/eli/cc/2012/785/fr

Federal Act on Surveillance of Postal Mail and Telecommunications (*RS 780.1 Loi fédérale du 18 mars 2016 sur la surveillance de la correspondance par poste et télécommunication*)
https://www.fedlex.admin.ch/eli/cc/2018/31/fr

Ordinance on Surveillance of Postal Mail and Telecommunications (*RS 780.11 Ordonnance du 15 novembre 2017 sur la surveillance de la correspondance par poste et télécommunication*)
https://www.fedlex.admin.ch/eli/cc/2018/32/fr

Ordinance on the Transplantation of Organs, Tissues and Cells of Animal Origin (*RS 810.213 Ordonnance du 16 mars 2007 sur la transplantation d'organes, de tissus et de cellules d'origine animale*)
https://www.fedlex.admin.ch/eli/cc/2007/283/fr

Ordinance on Clinical Trials with Therapeutic Products (*RS 810.305 Ordonnance du 20 septembre 2013 sur les essais cliniques dans le cadre de la recherche sur l'être humain*)
https://www.fedlex.admin.ch/eli/cc/2013/643/fr

Ordinance on Pharmaceuticals (*RS 812.212.21 Ordonnance du 21 septembre 2018 sur les médicaments*)
https://www.fedlex.admin.ch/eli/cc/2018/588/fr
Regulates: a. authorization of medicines on the market ready for use, b. authorization processes of surface treatment of labile blood products, c. classification criteria for categories of delivery, d. distribution restrictions, e. authorization of mail order drugs, f. market surveillance and vigilance.

Federal Act on the Protection against Dangerous Substances and Preparations (*RS 813.1 Loi fédérale du 15 décembre 2000 sur la protection contre les substances et les préparations dangereuses*)
https://www.fedlex.admin.ch/eli/cc/2004/724/fr
Protects the lives and health of human beings from the harmful effects of substances or preparations.

Ordinance on Good Laboratory Practice (*RS 813.112.1 Ordonnance du 18 mai 2005 sur les bonnes pratiques de laboratoire*)
https://www.fedlex.admin.ch/eli/cc/2005/467/fr
Fixes the principles of good laboratory practices, guarantees the quality of studies and regulates the verification of these requirements.

Ordinance on Marketing and Handling Biocidal Products (*RS 813.12 Ordonnance du 18 mai 2005 concernant la mise sur le marché et l'utilisation des produits biocides*)
https://www.fedlex.admin.ch/eli/cc/2005/468/fr
Regulates marketing of biocidal products and their active substances, particularly the various types and licensing procedures, the use of data from previous requests for the benefit of new applicants, and the classification of packaging, labelling and safety data sheets.

Federal Act on the Protection of the Environment (*RS 814.01 Loi fédérale du 7 octobre 1983 sur la protection de l'environnement*)
https://www.fedlex.admin.ch/eli/cc/1984/1122_1122_1122/fr

Ordinance on the Protection against Major Accidents (*RS 814.012 Ordonnance du 27 février 1991 sur la protection contre les accidents majeurs*)
https://www.fedlex.admin.ch/eli/cc/1991/748_748_748/fr
Covers activities involving the contained use of genetically modified organisms and pathogenic organisms in laboratories, production facilities, greenhouses and premises housing animals.

Ordinance on Waste Management (*RS 814.600 Ordonnance du 4 décembre 2015 sur la limitation et l'élimination des déchets*)
https://www.fedlex.admin.ch/eli/cc/2015/891/fr

Federal Act on non-Human Genetic Engineering (*RS 814.91 Loi fédérale du 21 mars 2003 sur l'application du génie génétique au domaine non humain*)
https://www.fedlex.admin.ch/eli/cc/2003/705/fr
Protects humans, animals and the environment against the abuse of genetic engineering, and ensures that applications of genetic engineering serve humans, animals and the environment.

Ordinance on the Release of Organisms into the Environment (*RS 814.911 Ordonnance du 10 septembre 2008 sur l'utilisation d'organismes dans l'environnement*)
https://www.fedlex.admin.ch/eli/cc/2008/614/fr
Protects humans, animals and the environment, as well as biodiversity and sustainable use of its components against the dangers and outrages associated with the use of organisms, their metabolites and their waste.

Ordinance on the Contained Use of Organisms (*RS 814.912 Ordonnance du 9 mai 2012 sur l'utilisation des organismes en milieu confiné*)
https://www.fedlex.admin.ch/eli/cc/2012/329/fr
Protects people and the environment and in particular communities of animals and plants and their habitats, against harmful effects or nuisances of the contained use of organisms. Contributes to the maintenance of biodiversity and soil fertility. Regulates the contained use of organisms, in particular genetically modified or pathogenic organisms. The revision of the ordinance that entered into force on 1 January 2020 introduces a definition of misuse and explicitly addresses biosecurity.

Ordinance on Transborder Traffic of Genetically Modified Organisms (*RS 814.912.21 Ordonnance du 3 novembre 2004 sur les mouvements transfrontières des organismes génétiquement modifiés*)
https://www.fedlex.admin.ch/eli/cc/2004/726/fr
Regulates the transborder transport of GMOs. Does not apply to medicines for human use, which contain GMOs.

Federal Act on Foods and Commodities (*RS 817.0 Loi fédérale du 20 juin 2014 sur les denrées alimentaires et les objets usuels*)
https://www.fedlex.admin.ch/eli/cc/2017/62/fr

Ordinance on Foods and Commodities (*RS 817.02 Ordonnance du 16 décembre 2016 sur les denrées alimentaires et les objets usuels*)
https://www.fedlex.admin.ch/eli/cc/2017/63/fr

Ordinance on Maximum Levels of Pesticide Residues Present in or on Products of Vegetable or Animal Origin (*RS 817.021.23 Ordonnance du DFI du 16 décembre 2016 sur les limites maximales applicables aux résidus de pesticides présents dans ou sur les produits d'origine végétale ou animale*)
https://www.fedlex.admin.ch/eli/cc/2017/151/fr

Ordinance on Genetically Modified Foods (*RS 817.022.51 Ordonnance du DFI du 27 mai 2020 sur les denrées alimentaires génétiquement modifiées*)
https://www.fedlex.admin.ch/eli/cc/2020/456/fr

Ordinance on Hygiene when Handling Food (*RS 817.024.1 Ordonnance du DFI du 16 décembre 2016 sur l'hygiène dans les activités liées aux denrées alimentaires*)
https://www.fedlex.admin.ch/eli/cc/2017/183/fr

Ordinance on the Enforcement of the Legislation on Foods (*RS 817.042 Ordonnance du DFI du 27 mai 2020 sur l'exécution de la législation sur les denrées alimentaires*)
https://www.fedlex.admin.ch/eli/cc/2020/460/fr

Ordinance on Animal Slaughter and Meat Control (*RS 817.190 Ordonnance du 16 décembre 2016 concernant l'abattage d'animaux et le contrôle des viandes*)
https://www.fedlex.admin.ch/eli/cc/2017/66/fr

Ordinance on Animal Slaughter Hygiene (*RS 817.190.1 Ordonnance du DFI du 23 novembre 2005 concernant l'hygiène lors de l'abattage d'animaux*)
https://www.fedlex.admin.ch/eli/cc/2005/816/fr

Federal Act on the Control of Communicable Human Diseases (*RS 818.101 Loi fédérale du 28 septembre 2012 sur la lutte contre les maladies transmissibles de l'homme*)
https://www.fedlex.admin.ch/eli/cc/2015/297/fr
Regulates fight against diseases transmissible to man by stating that the Confederation and the cantons take the necessary measures, including biosafety precautions, to protect human beings against pathogens including those genetically modified. Regulates identification of laboratories through permits delivered by the Swiss Institute of Therapeutic Products. Regulates the trade in pathogenic agents and requires an authorisation from every person disseminating pathogens for research or commerce. Entitles the Federal Council to regulate the transport, importation, exportation and the transit of pathogens, to limit or to ban the use of certain pathogens, to fix the conditions for persons using pathogens. Outlines the provisions for quarantine, vaccination, and disease surveillance and reporting requirements. Provides for imprisonment or fines anyone who intentionally or by negligence does not respect the prescriptions of the Federal Act.

Ordinance on the Control of Communicable Human Diseases (*RS 818.101.1 Ordonnance du 29 avril 2015 sur la lutte contre les maladies transmissibles de l'homme*)
https://www.fedlex.admin.ch/eli/cc/2015/298/fr

Ordinance on the Declaration of Observations of Communicable Human Diseases (*RS 818.101.126 Ordonnance du DFI du 1 décembre 2015 sur la déclaration d'observations en rapport avec les maladies transmissibles de l'homme*)
https://www.fedlex.admin.ch/eli/cc/2015/892/fr

Ordinance on Microbiological Laboratories (*RS 818.101.32 Ordonnance du 29 avril 2015 sur les laboratoires de microbiologie*)
https://www.fedlex.admin.ch/eli/cc/2015/299/fr

Ordinance Relating to the Act of Labour (*RS 822.114 Ordonnance 4 du 18 août 1993 relative à la loi sur le travail*)
https://www.fedlex.admin.ch/eli/cc/1993/2564_2564_2564/fr

Ordinance on the Protection of Workforce against Microbiological Risks (*RS 832.321 Ordonnance du 25 août 1999 sur la protection des travailleurs contre les risques liés aux micro-organismes*)
https://www.fedlex.admin.ch/eli/cc/1999/445/fr
Defines micro-organisms and genetically modified micro-organisms and techniques for genetic modification. Requires the regular identification and evaluation of the risks to which workers are exposed and the notification of the "Bureau de Biotechnologie de la Confédération" by employers. Defines general security measures for the protection of the workers by employers. Covers activities involving the contained use of genetically modified organisms and pathogenic organisms in laboratories, production facilities, greenhouses and premises housing animals.

Federal Act on Agriculture (*RS 910.1 Loi fédérale du 29 avril 1998 sur l'agriculture*)
https://www.fedlex.admin.ch/eli/cc/1998/3033_3033_3033/fr

Ordinance on the Coordination of Controls on Agricultural Farms (*RS 910.15 Ordonnance du 31 octobre 2018 sur la coordination des contrôles dans les exploitations agricoles*)
https://www.fedlex.admin.ch/eli/cc/2018/673/fr

Ordinance on Primary Production (*RS 916.020 Ordonnance du 23 novembre 2005 sur la production primaire*)
https://www.fedlex.admin.ch/eli/cc/2005/752/fr

Ordinance on the Release of Phytopharmaceutical Products (*RS 916.161 Ordonnance du 12 mai 2010 sur la mise en circulation des produits phytosanitaires*)
https://www.fedlex.admin.ch/eli/cc/2010/340/fr
Ensures that plant protection products lend themselves well in their intended use and as those are used in accordance with the requirements preventing unacceptable side effects on the health of humans, animals and the environment.

Ordinance on Plant Protection (*RS 916.20 Ordonnance du 31 octobre 2018 sur la protection des végétaux contre les organisms nuisibles particulièrement dangereux*)
https://www.fedlex.admin.ch/eli/cc/2018/682/fr
Protects plants of all sorts against the nuisances of dangerous organisms, and protects agriculture and horticulture fields from the same organisms.

Ordinance on the Control of Milk (*RS 916.351.0 Ordonnance du 20 octobre 2010 sur le contrôle du lait*)
https://www.fedlex.admin.ch/eli/cc/2010/713/fr

Ordinance on the Milk Production Hygiene (*RS 916.351.021.1 Ordonnance du DFI du 23 novembre 2005 réglant l'hygiène dans la production laitière*)
https://www.fedlex.admin.ch/eli/cc/2005/824/fr

Federal Act on Animal Diseases (*RS 916.40 Loi du 1er juillet 1966 sur les épizooties*)
https://www.fedlex.admin.ch/eli/cc/1966/1565_1621_1604/fr

Ordinance on the Control of Animal Diseases (*RS 916.401 Ordonnance du 27 juin 1995 sur les épizooties*)
https://www.fedlex.admin.ch/eli/cc/1995/3716_3716_3716/fr
Designates new contagious animal diseases and defines the measures of control of and the organization of the fight against animal diseases, as well as the compensation of animal keepers.

Ordinance on the Disposal of Animal Side Products (*RS 916.441.22 Ordonnance du 25 mai 2011 concernant l'élimination des sous-produits animaux*)
https://www.fedlex.admin.ch/eli/cc/2011/372/fr
Ensures that animal by-products do not endanger human and animal health and do not harm the environment. Allows as much as possible the recovery of animal by-products. Ensures that the infrastructure for the disposal of animal by-products is available.

Ordinance on Import, Transit and Export of Animals and Animal Products Exchanged with Third Countries (*RS 916.443.10 Ordonnance du 18 novembre 2015 réglant les échanges d'importation, de transit et d'exportation d'animaux et de produits animaux avec les pays tiers*)
https://www.fedlex.admin.ch/eli/cc/2015/843/fr
Regulates the import, transit and export of animals, animal by-products and animal products.

Ordinance on Import, Transit and Export of Animals and Animal Products Exchanged with EU Member States, Iceland and Norway (*RS 916.443.11 Ordonnance du 18 novembre 2015 réglant les échanges d'importation, de transit et d'exportation d'animaux et de produits animaux avec les Etats membres de l'UE, l'Islande et la Norvège*)
https://www.fedlex.admin.ch/eli/cc/2015/846/fr
Regulates the import, transit and export of animals, animal by-products and animal products.

Federal Act on the Control of Goods Suitable for Civilian and Military Purposes and Specific Military Goods (*RS 946.202 Loi fédérale du 13 décembre 1996 sur le contrôle des biens utilisables à des fins civiles et militaires et des biens militaires spécifiques*)
https://www.fedlex.admin.ch/eli/cc/1997/1697_1697_1697/fr
Regulates, inter alia, the import, export and transit of microorganisms and toxins. Applies to dual-use goods and specific military goods, which are the subject of international agreements. Also outlines the responsibilities of the Federal Council in this regard including licensing and reporting requirements and surveillance measures for import, export, transit, production, storage, transfer and use of goods.

Ordinance on the Control of Goods Suitable for Civilian and Military Purposes, Specific Military Goods and Strategic Goods (*RS 946.202.1 Ordonnance du 3 juin 2016 sur le contrôle des biens utilisables à des fins civiles et militaires, des biens militaires spécifiques et des biens stratégiques*)
https://www.fedlex.admin.ch/eli/cc/2016/352/fr
Regulates the export, import and transit of goods usable for civilian and military purposes, specific military goods and strategic goods which are the subject of international control measures not binding pursuant to international law. Applies in Swiss customs area to Swiss customs warehouses and Swiss customs enclaves.

Ordinance on the Control of Chemicals Suitable for Civilian and Military Purposes (*RS 946.202.21 Ordonnance du 21 août 2013 sur le contrôle des produits chimiques utilisables à des fins civiles et militaires*)
https://www.fedlex.admin.ch/eli/cc/2013/580/fr

Ordinance Establishing Measures against Persons and Entities Linked to Osama bin Laden, the al-Qaeda Group or the Taliban (*RS 946.203 Ordonnance du 2 octobre 2000 instituant des mesures à l'encontre de personnes et entités liées à Oussama ben Laden, au groupe «Al-Qaïda» ou aux Taliban*)
https://www.fedlex.admin.ch/eli/cc/2000/429/fr

Federal Act on Sanctions on Trade with Foreign Countries (*RS 946.231 Loi fédérale du 22 mars 2002 sur l'application de sanctions internationales*)
https://www.fedlex.admin.ch/eli/cc/2002/564/fr

Ordinance of the Swiss Financial Market Supervisory Authority on Combatting Money Laundering and Financing of Terrorism in the Financial Sector (*RS 955.033.0 Ordonnance de l'Autorité fédérale de surveillance des marchés financiers du 3 juin 2015 sur la lutte contre le blanchiment d'argent et le financement du terrorisme dans le secteur financier*)
https://www.fedlex.admin.ch/eli/cc/2015/390/fr

Ordinance on the Reporting Bureau in Matters of Money Laundering (*RS 955.23 Ordonnance du 25 août 2004 sur le Bureau de communication en matière de blanchiment d'argent*)
https://www.fedlex.admin.ch/eli/cc/2004/626/fr

Titles in English are unofficial translations that are provided for information purposes only and have no legal force. To access legal documents please consult the Swiss Federal Legislation in either French (links above), German or Italian. Some additional information may also be obtained in the framework of UNSCR 1540 at:
https://www.un.org/en/sc/1540/national-implementation/national-reports.shtml

Confidence-Building Measure "F"

Declaration of past activities in offensive and/or defensive biological research and development programmes

In the interest of increasing transparency and openness, States parties shall declare whether or not they conducted any offensive and/or defensive biological research and development programmes since 1 January 1946.

If so, States parties shall provide information on such programmes, in accordance with Form F.

Form F

Declaration of past activities in offensive and/or defensive biological research and development programmes

1. Date of entry into force of the Convention for the State Party.

Tuesday, May 4, 1976

2. Past offensive biological research and development programmes:

- no

- Period(s) of activities

N/A

- Summary of the research and development activities indicating whether work was performed concerning production, test and evaluation, weaponization, stockpiling of biological agents, the destruction programme of such agents and weapons, and other related research.

N/A

3. Past defensive biological research and development programmes:

- yes

- Period(s) of activities

1997 to present.

- Summary of the research and development activities indicating whether or not work was conducted in the following areas: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination, and other related research, with location if possible.

Please refer to Form A, part 2 (ii) as well as past CBM declarations.

Confidence-Building Measure "G"

Declaration of vaccine production facilities

To further increase the transparency of biological research and development related to the Convention and to broaden scientific and technical knowledge as agreed in Article X, each State party will declare all facilities, both governmental and non-governmental, within its territory or under its jurisdiction or control anywhere, producing vaccines licensed by the State party for the protection of humans. Information shall be provided on Form G attached.

Form G

Declaration of vaccine production facilities

1. Name of facility:

Bavarian Nordic Berna GmbH

2. Location (mailing address):

Oberriedstrasse 68, CH-3174 Thörishaus, Switzerland

3. General description of the types of diseases covered:

1	Disease targeted	Typhoid fever
	Name of vaccine	Vivotif, Typhoral L
	License	US, EU, CH, NO, UK, IL, CA, AU, NZ, SG, MY, KR
2	Disease targeted	Cholera
	Name of vaccine	Vaxchora
	License	US, EU, UK, CA, AU
3	Disease targeted	Chikungunya fever
	Name of vaccine	No trade name yet
	License	Phase 3: US

1. Name of facility:

Janssen Vaccines, Branch of Cilag International GmbH

2. Location (mailing address):

Rehhagstrasse 79, CH-3018 Bern, Switzerland

3. General description of the types of diseases covered:

1	Disease(s) targeted	Ebola virus disease
	Name of vaccine	Ad26.ZEBOV
	License	Only for emergency use in CD, RW
2	Disease(s) targeted	Bacteremia (extraenous pathogenic *E. coli*)
	Name of vaccine	ExPEC Multivalent
	License	Trial Phase 1/2a

3	Disease(s) targeted	Influenza
	Name of vaccine	Uniflu Ad26.FLU
	License	Trial Phase 1
4	Disease(s) targeted	Respiratory coronavirus
	Name of vaccine	n/a
	License	Trial Phase 1

1.Name of facility:

Lonza AG, Werk Visp

2.Location (mailing address):

Lonzastrasse, CH-3039 Visp, Switzerland

3.General description of the types of diseases covered:

1	Disease targeted	Pneumococcal infection
	Name of vaccine	Vax-24
	License	Phase 1/2: US
2	Disease targeted	Pneumococcal infection
	Name of vaccine	VAX-XP
	License	Phase 1/2: US

Notes

1. World Health Organization

2. World Organization for Animal Health.

3. The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately.

4. For facilities with maximum containment units participating in the national biological defence research and development programme, please fill in name of facility and mark "Declared in accordance with Form A, part 2 (iii)".

5. In accordance with the latest edition of the WHO Laboratory Biosafety Manual, or equivalent.

6. Microorganisms pathogenic to humans and/or animals

7. In accordance with the latest edition of the WHO Laboratory Biosafety Manual and/or the OIE Terrestrial Manual or other equivalent internationally accepted guidelines.

8. In accordance with the latest edition of the WHO Laboratory Biosafety Manual and/or the OIE Terrestrial Manual or other equivalent internationally accepted guidelines.

9. Including viruses and prions.

10. It is understood that this may include organisms made pathogenic by molecular biology techniques, such as genetic engineering.

11. See paragraph 2 of the chapeau to Confidence-Building Measure B.

12. Including guidelines.

13. Micro-organisms pathogenic to man, animals and plants in accordance with the Convention.

14. In accordance with the latest version of the WHO Laboratory Biosafety Manual or equivalent national or international guidance.

15. In accordance with the latest version of the WHO Laboratory Biosecurity Guidance or equivalent national or international guidance.