Iceland Liechtenstein Norway grants
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EEA and Norway Grants Fund for Regional Cooperation

Common Challenges – Shared Solutions

PROJECT DESCRIPTION

Project Index No.: 2018-1-0659

Project title : TBFVnet: surveillance and research on tick-borne flaviviruses (TBFV)

Lead partner : Veterinary Research Institute

Fund operated by

ECORYS consulting procurement jcp srl

SECTION 1 - Project overview

1.1 General Information

Fund	EEA and Norway Grants Fund for Regional Cooperation
Fund priority sectors	• Innovation, Research, Education and Competitiveness
Project title	TBFVnet: surveillance and research on tick-borne flaviviruses (TBFV)
Project index number	2018-1-0659
Name of the lead partner organisation (in English)	Veterinary Research Institute
Country of the lead partner organisation	Czech Republic
Estimated start date of implementation	01/07/2020
Estimated end date of implementation	31/01/2024
Project duration (in months)	43
Total estimated eligible Project costs (in EUR)	€ 1.331.086,00
Maximum requested grant amount (in EUR)	€ 1.195.517,00

1.2 Project summary

Please update the project summary. Provide a short description of your project idea with focus on goals and expected results. Make sure this section is well edited and presents your project in the most accurate and concise form. Make sure the following elements are covered:

- *the priority sector(s) and programme area(s) you are addressing in your project*
- *relevance of project proposal in relation to the objective, principles and priorities of the call*
- *the expected change your project will make to the current situation*
- *the direct target groups and the end beneficiaries of the project*
- *the transnational added value of the project*
- *the expected sustainability of the project beyond the end of the funding period*

TBFVnet identifies tick-borne flaviviruses (TBFVs) as a **research, health and social priority** requiring a **multidisciplinary and cross-border approach** in the target Region (areas of interest of the Fund). TBFVs include a large number of human and animal pathogens causing severe disease. Tick-borne encephalitis virus (TBEV), Powassan virus (POWV) and Louping-ill virus (LIV) cause encephalitis, while Omsk hemorrhagic fever virus (OHFV) is hemorrhagic. TBEV is considered the most relevant arbovirus in Central and Eastern Europe and in Russia, with about 13.000 estimated human cases annually. Over the last decade there has been a 300% increase in the number of TBE cases in Europe, and TBEV is currently spreading in France, Sweden, Norway and Italy. This expansion poses an increased risk for the population and for the workers engaged in outdoor activities. Among the patients that experience neuroinvasive TBEV infection, approximately 25–40% of the survivors suffer from long lasting neurological *sequelae*. There are currently no antivirals for the treatment of TBFV infections and a prophylactic vaccine is available only for TBEV. Moreover, the biology of the virus as well as the mechanisms of pathogenicity remain poorly understood and

there are no common surveillance and diagnosis strategies to monitor the spread and risk of exposure.

TBFVnet aims at creating a network of associated laboratories at two levels: as core alliance between **partners willing to share common tools and protocols**; and, subsequently, to **transfer best practices to neighboring countries**. A joint research platform to investigate the biology and pathogenesis of TBFV disease and to study novel antivirals and prophylactic immunity will complement the action. It is expected that the integration of research and surveillance will create positive synergies for both fields.

Direct target groups are PPs staff and young researchers that will benefit from **collaborative basic research, development of innovative tools and bio-markers, exchange visits** to Expertise partners. Planned activities will lead to a **stable cross-border network able to tackle TBFV disease at all levels through reliable and comparable data**, and will contribute, in the long term, to the definition of a forecast tool for geographical distribution of TBFV. Public health and veterinary institutions, biotech companies and the population at large, will benefit from knowledge advancement and unlocked R&I potential.

The partnership brings specific expertise: the Lead Partner, based in the Czech Republic, at the heart of the endemic area in Central Europe, has a long-standing interest in TBEV pathogenesis and antivirals discovery; Slovakia deals with TBEV research and isolation as well as with the characterization of wild viral strains. Both partners are engaged in national surveillance programs and collaborate with diagnostic laboratories. As highly pathogenic strains of TBEV, as well as other TBFVs such as OHFV, originate from Russia representing a threat to Europe, the Chumakov Institute in Moscow has been strategically included. Expertise partners at the Northern borders complement the consortium: Norway having a wide knowledge of surveillance of TBFVs and LIV; Sweden is specialized in the molecular biology of TBEV infection. The ICGEB, an intergovernmental organization, will provide expertise in TBEV biology and diagnosis available at its labs in Trieste, at the Southern border of the endemic area in Western Europe, and an umbrella of institutional contacts in other ICGEB Members of the target Region.

The network will be promoted as **relevant forum for the exchange of data and research methods also after project completion**. Specific dissemination tools and events will be organized during and after the project to reach out to potential end beneficiaries and encourage uptake of project results. Cost-effective in-house solutions produced will remain with the PPs and reduce public costs for surveillance.

SECTION 2 - Partners

2.1 Lead partner	
Project partner number	1
Name of organisation in English	Veterinary Research Institute
Address	
Country	Czech Republic
Postal address	Hudcova 70, CZ-62100 Brno, Czech Republic
Website	https://www.vri.cz
Legal information	
Legal status	University or research institution
Type of identification number	VAT
Identification number	CZ00027162
Legal representative name(s)	a
Contact information	
Contact person's name	
Contact person's e-mail address	
Contact person's telephone number	

Beneficiary partner	
Project partner number	2
Name of organisation in English	«Chumakov Federal Scientific Center for Research and Development of Immune-and-biological Products of Russian Academy of Sciences» (FSBSI "Chumakov FSC R&D IBP RAS")
Address	
Country	Russia
Postal address	prem. 8, korp. 1, village Institute of poliomyelitis, poselenie Moskovskiy, 108819 Moscow, Russia
Website	http://chumakovs.ru/
Legal information	
Legal status	University or research institution
Type of identification number	TIN/RRC 7751023847/775101001
Identification number	OGRN 1167746624847

Legal representative name(s)	
Contact information	
Contact person's name	
Contact person's e-mail address	
Contact person's telephone number	

Beneficiary partner	
Project partner number	3
Name of organisation in English	Biomedical Research Center of the Slovak Academy of Sciences
Address	
Country	Slovakia
Postal address	Dúbravská cesta 9, 84505 Bratislava
Website	http://www.bmc.sav.sk/
Legal information	
Legal status	University or research institution
Type of identification number	Registry No
Identification number	50073869
Legal representative name(s)	
Contact information	
Contact person's name	
Contact person's e-mail address	
Contact person's telephone number	

Expertise partner	
Project partner number	
Name of organisation in English	Norwegian Institute of Public Health
Address	
Country	Norway
Postal address	PO Box 222 Skøyen, N-0213 Oslo, Norway
Website	https://www.fhi.no/en/

Legal information	
Legal status	Public
Type of identification number	Org. no.
Identification number	Org. no. 983 744 516
Legal representative name(s)	
Contact information	
Contact person's name	
Contact person's e-mail address	
Contact person's telephone number	

Expertise partner	
Project partner number	5
Name of organisation in English	Umeå University
Address	
Country	Sweden
Postal address	SE-901 87 Umeå
Website	http://www.umu.se/english/?languageId=1
Legal information	
Legal status	University or research institution
Type of identification number	VAT
Identification number	SE202100287401
Legal representative name(s)	
Contact information	
Contact person's name	
Contact person's e-mail address	
Contact person's telephone number	

Expertise partner	
Project partner number	6
Name of organisation in English	International Centre for Genetic Engineering and Biotechnology - ICGEB

Address	
Country	International
Postal address	Padriciano 99, 34149 Trieste, ITALY
Website	http://www.icgeb.org/home.html
Legal information	
Legal status	International organisation
Type of identification number	Tax No
Identification number	90031700322
Legal representative name(s)	
Contact information	
Contact person's name	
Contact person's e-mail address	
Contact person's telephone number	

SECTION 3 - Project description

3.1 Project objectives and expected outcomes

Project objective

What is the problem that the project is going to address? What are the needs of the target group(s) (end beneficiaries)? What is the project's objective and how does it link to the Fund's objective, principles and priorities, as outlined in the call for proposals?

The objective of TBFVnet is to **establish a stable cross-country network that will provide innovative approaches for surveillance and research on tick-borne flaviviruses**, including TBEV, the most prevalent flavivirus in Central Europe. TBFVs include many pathogens causing severe human diseases, ranging from mild fever to encephalitis and hemorrhagic fever. TBFVs are endemic in the Region and, due to climate change, are rapidly expanding posing an increasing infectious threat in all Europe. The management of such diseases requires a high degree of transnational cooperation in different sectors: healthcare, research, veterinary and the environment.

Focusing on **Priority 1, PPs will pool and complement their specific expertise** by sharing and comparing data collected in different areas, exchanging knowledge and techniques, defining new research methods, thus improving their research performance and generating new solutions to the analysis and management of this major challenge.

TBFVnet specific aims and beneficiaries:

-to establish common tools and protocols for the diagnosis and surveillance of TBFVs - public health, veterinary centers

-to investigate the molecular correlates of pathogenesis of TBFVs - research community, ESRs

-to develop new antivirals - scientists/pharma industry

-to expand an international alliance to tackle TBFVs - PPs, the Region

Project outcomes

No	Name of the outcome
1	Enhanced performance of research institutions
2	Enhanced cooperation and improved mutual knowledge and understanding between the donor and beneficiary states.

Outcomes indicators

Outcome name	Indicators	Unit of measurement	Baseline value	Baseline year	Target values

Enhanced performance of research institutions	Number of new products/technologies developed	number	0,00	2019	2,00
	Number of registered applications for Intellectual Property Protection	number	0,00	2019	1,00
	Number of articles submitted to peer-reviewed publications	number	12,00	2019	32,00
	Common tools/protocols established	number	0,00	2019	2,00
	Partners involved in the TBFV scientific network	number	6,00	2019	8,00
	Joint articles submitted to peer-reviewed publications	number	1,00	2019	8,00
	Joint applications for further funding	number	0,00	2019	3,00
Enhanced cooperation and improved mutual knowledge and understanding between the donor and beneficiary states.	Level of trust between cooperating entities in Beneficiary States and Donor States	scale (1-7)	0,00	2019	5,00
	Level of satisfaction with the partnership	scale (1-7)	0,00	2019	5,00
	Share of cooperating organisations who apply the knowledge acquired from bilateral partnership	percentage	0,00	2019	75,00

Project outputs

Please give a general description of your project outputs, then define the specific outputs contributing to project outcomes

It is expected that the realization of joint research studies on TBFVs surveillance and the definition of a common framework to investigate TBFVs will contribute to enhance the performance of partnering research institutions. Indeed, all PPs will benefit from data exchanges, collaborative research and comparative studies thus advancing the knowledge on TBFVs and increasing their internal expertise. Scientific meetings, reciprocal short visits and mobility of junior scientists will allow Beneficiary Partners to acquire new research techniques and increase multidisciplinary interaction. The formal establishment of a Regional TBFVnet through a dedicated website, annual conferences, joint publications and other

dissemination activities targeting the PPs and other institutions in neighboring countries, will further contribute to enhance the research capacity on TBFVs and to expand cooperation between the Donor and Beneficiary States on this common challenge.

Outcome	Output title	Output Description	Due date
Enhanced performance of research institutions	Training on diagnostic assays delivered	The expected result is the establishment of shared tools and protocols among the project consortium to allow for comparable diagnosis and surveillance of TBFVs in animals and humans. This will be reached through: exchange of research material and training sessions delivered by Expertise partners to Beneficiary partners, with particular reference to serological and molecular tests; preparatory and subsequent experiments by each PP and comparison of results among the partnership.	31/01/2024
	Cross-labs experiments for antiviral drug discovery conducted	The expected result is the definition of a common research framework to study TBFV pathogenesis with the ultimate goal of improving the response to TBFVs infections. This will be reached through exchange of junior staff among partners to conduct cross-labs experiments, in particular to implement models of TBFVs pathogenesis designed to test antiviral strategies. Molecular correlates of TBFV pathogenesis will be studied taking advantage of the expertise partners MIMS and ICGEB. Models of tick-borne transmission, infection and tissue tropism will be available at VRI, CFSC and SAS.	31/01/2024

Enhanced cooperation and improved mutual knowledge and understanding between the donor and beneficiary states.	Scientific interaction between Donor and Beneficiary States facilitated	It is expected that the 4-year collaboration will lead to the consolidation of a core network of research institutions from Donor and Beneficiary States collaborating on the surveillance and diagnostics of TBFVs. This will entail exchange of knowledge, expertise and personnel, collaborative research, joint publications and the organisation of, and participation in, dissemination events. Moreover, the ICGEB will make available its own network of Member Countries in the Region to approach key laboratories in TBFVs research and surveillance in order to enlarge the platform and allow for additional sharing of data, protocols and reagents key to further study the topic. All PPs will try to bring in other collaborations to expand the network.	31/01/2024

What is the project's approach/method in addressing the challenges of the chosen support area(s)?

Please make sure to address the chosen support area or areas if the project concerns more than one. Describe the approach in detail and include references to the research/good practice/experiences it rests on. Include information on how to reach and work with the target group(s) and other stakeholders.

Research within TBFVnet is at the clinical and veterinary level, with joint studies addressing viral pathogenicity. **Sharing and integration of protocols and tools among PPs** will be critical to uniform research results among different laboratories. **Short-term staff exchange between partners** will be also instrumental to forge the next generation of scientists in this **specific multidisciplinary approach**. Integration of surveillance data, definition of sentinel animals, development of careful mapping of disease prevalence on the territory and integration with climate change data provides the basis to predict seasonal risk areas in advance. Similarly, definition of markers of TBEV-induced encephalitis and development of antivirals are the prerequisites for the management of the complications of infection.

TBFVnet approach includes **joint research and capacity building in virus diagnostic and surveillance** including the collection of direct whole-genome sequences of wild TBFVs to establish a shared bio-bank of molecular clones, the investigation of the host antiviral response to TBFVs infection in the different animal and human host, the investigation of the mechanism of TBFV pathogenicity in vitro and in vivo, the discovery of new antivirals and vaccines. A training component will be implemented through workshops and short-term mobility schemes for junior staff to Expertise partners and other PPs laboratories, based on research needs.

Dissemination and outreach activities will be implemented both within TBFVnet partners and in neighboring endemic countries.

These approaches will contribute to the **establishment of a platform for the development of antivirals for TBFV diseases and to the development of molecular and serological**

diagnostic tools developed by the partners to provide shared **in-house tools for TBFVs** infection surveillance and management thus enhancing the research performance and capacity of the involved PPs.

Furthermore, joint collaborative research will **contribute to pave the way to the elaboration of web-based forecasting tool** that could, in the future, take advantage of the input of surveillance data from the Partners and associated laboratories to predict seasonal geographical distribution and risk of exposure.

3.2 Project relevance

What are the European challenges to be addressed by the project?

Place your project within the context described in the call. Relate it to the challenges in the countries participating in the project. Please refer to relevant research/statistics/facts to support your text.

TBFVnet is in line with the EEA and Norway Grants challenge of strengthening bilateral relations with 15 EU countries and reduce economic and social disparities in the EEA. It focuses on Priority 1 by **enhancing research-based knowledge** development in the specific field of tick borne diseases, including finding in-house detection tools that will **reduce the costs for public health institutions**. TBFVnet will capitalize on the results of previous bilateral collaborations among PPs and with other potential beneficiaries in the Region. In the period 2012-2016, in the EU and in the EEA 12,500 cases of tick-borne encephalitis were observed: 2522 in Czech Republic, 638 in Slovakia, 1180 in Sweden and 47 in Norway 47 (Beauté et al. Eurosurveillance 2018).

TBFVnet is aligned with the **Europe2020 Strategy** for smart, sustainable and inclusive growth and with the EU cohesion policy objective of strengthening research, technological development and innovation. It is in line with **H2020 Societal Challenge 1 “Health, demographic change and wellbeing”** (and to a minor, yet relevant extent SC2 on food security and agriculture). TBFVnet has also the potential to contribute to the work of EIP AGRI and EIP on Active Healthy Ageing.

TBFVnet will contribute to the **Danube Region Strategy, in particular to priority area 7** "To develop the Knowledge Society (research, education and ICT)", and its targets of enhancing academic mobility and increasing the annual output of co-publications in the region. It will also contribute to the **EU Strategy for the Baltic Sea Region** in particular to create a **dynamic environment for research and innovation** by promoting dialogue and effective cooperation in Northern and Central Europe.

Overall, the initiative has the **potential to highly impact the R&I capacities of EU countries** and the cooperation intra-EEA and among beneficiary countries. In the long term, it will contribute to **improving public health care and coordination of surveillance systems**.

Project partners may cooperate in one of two ways:

1. **Regional cross-border cooperation** between eligible countries (regional focus)
2. **Transnational cooperation** between eligible countries

Please explain why the project goals cannot be efficiently reached acting only on a national/regional/local level and/or describe what benefits the project partners/target groups/project area will gain in taking a transnational or regional cross-border approach. For projects with an expertise partner from a Donor State, please explain how the project will contribute to

strengthening the relations between the Donor State and the other countries in the project consortium.

TBFVs infections are expanding East-West and to Northern and Southern Europe with a **patched distribution that depends on the diffusion of the vector and of the animal reservoirs**. A **high seasonal variability** has been observed making forecasts difficult without a constant and capillary surveillance. TBFVs are mainly tackled at the national/local level and **more cooperation among endemic regions is needed to better control and manage the prediction, transmission, detection, and treatment of these infections.**

Beneficiary partners are at the core of the endemic area, while Expertise partners, where TBFVs are also endemic, provide surveillance and research tools open to the network. The role of the ICGEB, besides its expertise in diagnostic and research, is instrumental to expand the activities of TBFVnet within its constituency overlapping with the target Region. PPs will be able to compare data from different areas, exchange knowledge and improve research capacity on this topic.

TBFVnet will contribute to strengthening the relations between the **Donor State Norway and the other countries**, as they **will collaborate in the joint definition of common strategies for TBFVs surveillance**. In particular, NIPH will share its experience in ticks collection in relation with climate conditions, cultivation of virus and analysis of genetic variations within the TBEV genome and will host for short-term visits researchers from Beneficiary partners Czech Republic, Slovakia and Russia.

TBFVnet is trans-national, involving regions of active expansion of TBFVs infections in Europe and large areas in Russia, historically endemic for TBFV, representing a reservoir of viral variants of increased pathogenicity, a potential new threat to Europe. Advanced contacts have been already established with Slovenia (I University of Lubiana), Estonia (, University of Tartu) and Poland (P , Jiagiellonian University in Krakow), in view of expanding TBFVnet.

What is the target group of your project? Please describe briefly what are your direct target groups and end beneficiaries?

The consortium represents a **wide spectrum of public institutions involved in the management of TBFV infections**: veterinary (Czech Republic), healthcare (Norway) and research (Slovakia, Russia, Sweden, ICGEB).

Direct beneficiaries are researchers and staff of partner institutes that will benefit from knowledge exchange, collaborative research and training of young scientists. **Other target groups** in countries of the PPs and in other countries of the Region, which will benefit from research advancement, are:

- **Health care and veterinary institutions** wishing to develop and implement in house cost-effective solutions for TBFV
- **Disease management research centers** involved in TBFVnet topics and available to share research tools and results
- Institutes wishing to develop and improve tools for TBFV surveillance
- **Biotech companies** working in the field of diagnostics for infectious diseases
- Governments of neighboring countries approached through the ICGEB Liaison Officers and affiliated research centers
- The **population at large**, particularly groups at risk of infection: outdoor workers; people engaging leisure outdoor activities and the elderly that are the major risk group for TBE

Target groups	Description of the target groups	Target value

Researchers/Scientists	Senior and junior scientists of PPs involved in joint research activities, reciprocal visits to other PPs labs, joint publications and future collaborations.	20,00
Students (any age)	Other young researchers from PPs and other institutions participating in annual seminars and actions for the dissemination of project results.	100,00
Women	Particular attention will be given to gender equality by encouraging female scientists and other staff from PPs to actively engage in project activities such as seminars and training sessions.	10,00
General public	The lay public, including local and regional healthcare, veterinary and research institutions, biotech companies and groups of population at major risk of infection, will benefit from project results, in particular from improved knowledge on TBFV and surveillance tools developed.	500,00

3.3 Sustainability and transferability of project outputs and results

How will the project ensure that outputs and outcomes have a lasting effect beyond project duration?

Describe concrete measures (including institutional structures, financial resources, etc.) taken during and after the project implementation to ensure and/or strengthen the sustainability of the project's outputs and outcomes. Briefly explain how outputs will be further used once the project is finalised and, if relevant, explain who will be responsible and/or who will be the owner of the outputs

Briefly explain how outputs will be further used once the project is finalised and, if relevant, explain who will be responsible and/or who will be the owner of the outputs.

The surveillance and diagnosis tools are produced and validated within the network. The partner institutions and the laboratories associated through **TBFVnet** benefit from the availability of **cost-effective in-house solutions** that will last beyond the end of the project reducing public costs for surveillance.

On the other hand, development of antivirals requires a high level of investment. Therefore, particular attention will be given to the identification and **protection of inventions** through filing of patents and a framework of IP policies and shared rights on inventions will be established to protect the inventors and the investment.

Proper dissemination tools (project website, social media, etc.) and events (regional seminars, project events) will be organized during and after project implementation to reach out to potential end beneficiaries and encourage uptake of project results. One major expected output is to have **several joint publications** on relevant scientific journals such as the Journal of Virology or Plos Journals. **Open access** will be privileged in order to make research results available to the scientific community readily and beyond project duration.

All PPs will promote **TBFVnet** in the Region through their networks. In particular, the ICGEB will promote **TBFVnet** in the Region beyond the end of the project through its communication channels and **international institutional network**. As well, **ICGEB funding programmes open to Member States** (fellowships, CRP grants, meetings and courses) will be promoted to provide additional funds for collaborative research and education on this topic.

It is expected that PPs will continue collaboration after the project and increase participation of Beneficiary countries in European funding programmes (such as H2020/Horizon Europe and others) through **joint grant applications**.

How will the project ensure that project results are applicable and replicable by other organisations/regions/countries outside of the current partnership?

Describe to what extent it will be possible to transfer the project results to other organisations/regions/countries outside of the current partnership.

The core activity of **TBFVnet** is to establish shared protocols and tools for comparable results in a wider geographic area. Therefore, the major expected output is that **Partners within TBEVnet will produce highly comparable and reliable results**. **These results will be made available to similar institutions working on these topics through scientific publications and dissemination events**. Already established contacts between Partners and fellow colleagues in Institutions in the Region will be reinforced to build an effective network. To this end, a survey will be implemented to map the relevant research groups and health/veterinary institutions in neighboring countries.

A number of activities will be set up in order to expand the TBFVnet, such as project promotion, dissemination activities, presentation of best practices, activation of own networks by each partner and mapping of relevant institutions.

In this framework, the ICGEB will be instrumental because **the ICGEB constituency includes many countries in the Region that are targeted by the Fund**: Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Greece, Hungary, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, North Macedonia, Turkey and Ukraine. Through activation of its programmes, in particular through its Meeting and Courses Programme, targeted events could be supported in loco both to increase sharing of data and expertise, and to transfer the outputs of TBFVnet to relevant stakeholders and the lay public. The ICGEB could also activate specific Collaborative Research Grants open to research groups in the Fund Region that are working on TBFVnet topics, in the form of CRPs ICGEB/EEA & Norway GFRC initiatives co-sponsored through TBFVnet.

3.4 Risk assessment

What risks are relevant for the project? What actions will be taken to minimise their impact?

Risk type	Likelihood	Impact	Relevance	Mitigation
Poor performance of project partners	very unlikely	serious	3	All PPs have specific expertise in the area of TBFV. This risk is very unlikely and the supervision of the LP will ensure activities are performed as planned by each PP

				or corrective measures are taken. A Project Steering Committee (PSC) will also be instrumental in project monitoring and guide proper dialogue among partners should there be any technical issue to examine and solve together.
Poor communication/cooperation within the consortium	very unlikely	moderate	2	All PPs have sound experience in European and international projects and partnerships. This risk is very unlikely and the supervision of the LP will ensure proper communication and coordination of the consortium. PPs have already shown their willingness to build up and consolidate a research network on TBFVs, also by providing their input during the preparation of the present proposal. Some of them have previous contacts/scientific collaborations and periodically meet in scientific events. Communication activities involving PPs, such as project meetings and joint research will be further strengthened should the risk become higher.
Staff turnover	unlikely	minimal	2	All PP are solid organizations with experienced permanent staff. The execution of projects is a concerted action of several actors, including administrative and scientific staff. In the case of personnel turnover replacements will be in place to carry on the work and the transition phase will be supported by the other staff.
Financial liquidity problems	very unlikely	serious	3	All PP are solid organizations with

				governmental stakeholders, therefore the risk of financial liquidity problems is very unlikely. In the case activities within the program could not be accomplished a plan will be defined in accordance with the other PPs to finalize the project by providing support. All PPs are used to work in international collaborative projects and have enough institutional resources to advance costs for implementing activities under their responsibility in each WP.

SECTION 4 - Planned work packages

WP 1

Work package title	Management
Responsible partner	Veterinary Research Institute
Budget	€ 184.920,35

How will the management on the strategic and operational level be carried out in the project? What will be the structure, responsibilities and procedures for the day-to-day management and co-ordination? What will the internal communication within the partnership look like? What will be the reporting and evaluation procedures? How will the risk and quality management be ensured? Indicate whether it is foreseen to outsource certain project management tasks.

The Lead Partner will be responsible for the financial and technical management of the project and for liaising with the Fund Operator. A Project Manager (PM) and a Financial Manager (FM) will be in charge of the daily management of the project and will ensure proper partnership coordination, and compliance with contractual obligations in terms of implementation, visibility, reporting and funds distribution among partners. All Project Partners will contribute to a smooth and efficient implementation and reporting by timely providing the necessary information and documentations to the LP.

Project management will be carried out at two levels: at PPs level - each partner will ensure appropriate effort by technical, admin and communication staff; and, at the partnership level, through regular communication among PPs and the setting up of a Project Steering Committee (PSC). The PSC will be composed by at least one representative for each PP, and will periodically consults to ensure appropriate guidance and monitoring of activities progression against the work plan and timetable. A project kick-off meeting will be held within M3 at the Lead Partner premises. Other project meetings will be organized on a six-month basis and hosted in turn by each PP or by conference call.

To ensure quality management and risks prevention/remediation, the PM will circulate in advance internal reports as a basis for discussion. In addition, the PM will facilitate regular exchange of information with all PPs and will monitor the realization of planned activities through regular contacts with the Responsible Partner for each WP. An internal mid-project evaluation report against the project results framework will be also prepared at the end of Y 2/beginning of Y3.

Start date	01/07/2020
End date	31/01/2024

Activities

Please indicate activities within this WP. Attribute the start and end dates and responsible project partner to each activity. Please remember the partner shall be responsible for both implementation of the activity and its costs. Add as many rows as you need.

Activities	Forecasted start date	Forecasted end date	Name of responsible partner
Daily management and liaison with the FO	01/07/2020	31/01/2024	Veterinary Research Institute
PSC set-up, organisation of PSC meetings and consortium technical updates	01/07/2020	31/01/2024	Veterinary Research Institute

Participation in PSC meetings, consortium technical updates and other project meetings	01/07/2020	31/01/2024	«Chumakov Federal Scientific Center for Research and Development of Immune-and-biological Products of Russian Academy of Sciences» (FSBSI "Chumakov FSC R&D IBP RAS")
Participation in PSC meetings, consortium technical updates and other project meetings	01/07/2020	31/01/2024	Biomedical Research Center of the Slovak Academy of Sciences
Participation in PSC meetings, consortium technical updates and other project meetings	01/07/2020	31/01/2024	Norwegian Institute of Public Health
Participation in PSC meetings, consortium technical updates and other project meetings	01/07/2020	31/01/2024	Umeå University
Participation in PSC meetings, consortium technical updates and other project meetings	01/07/2020	31/01/2024	International Centre for Genetic Engineering and Biotechnology - ICGEB
Narrative and Financial reporting and Audits	01/07/2020	31/01/2024	Veterinary Research Institute
Narrative and Financial reporting and Audits	01/07/2020	31/01/2024	«Chumakov Federal Scientific Center for Research and Development of Immune-and-biological Products of Russian Academy of Sciences» (FSBSI "Chumakov FSC R&D IBP RAS")
Narrative and Financial reporting and Audits	01/07/2020	31/01/2024	Biomedical Research Center of the Slovak Academy of Sciences
Narrative and Financial reporting and Audits	01/07/2020	31/01/2024	Norwegian Institute of Public Health
Narrative and Financial reporting and Audits	01/07/2020	31/01/2024	Umeå University
Narrative and Financial reporting and Audits	01/07/2020	31/01/2024	International Centre for Genetic Engineering and Biotechnology - ICGEB
Mid-term internal evaluation	01/05/2022	30/06/2022	Veterinary Research Institute

WP 2

Work package title	Communication
Responsible partner	International Centre for Genetic Engineering and Biotechnology - ICGEB
Budget	€ 165.419,37

What can communications do to help reach the outcomes of the project? What are the goals of the communication activities? (i.e. arise awareness, increase knowledge, influence attitude, change behaviour…). What kind of strategy and related approaches and/or innovative tactics will be used to reach these goals? What are the target groups of the

communication tasks?

Please refer to the minimum requirements on effective communication and dissemination of results in the projects described in the Call for Proposals – Full Proposal Phase document under chapter "Communication and Visibility Measures".

Communication will be key for reaching out the project outcomes. While **emphasizing the added value of tackling TBFVs at the transnational level**, WP specific goals are to: (i) **facilitate information flows among PPs and WPs**; (ii) **disseminate project objectives and results**, in particular knowledge advancement achieved within WP3 and WP4 to promote best practices in TBFVs surveillance and antiviral drug discovery; (iii) **consolidate and expand the regional network on TBFVs**.

To ensure effective information and **compliance with FO visibility guidelines**, different communication measures and languages will be identified for each target group, i.e. leaflets, informative events, press coverage, scientific publications, conferences, etc. A dedicated website will contain the TVBFnet objectives, PPs profiles, updates on project progression through articles, photographs and other contents, and a protected area for PPs. A detailed Communication Plan will be prepared by month 3 and will include a Data Management plan and friendly guidelines for PPs staff, also focusing on the acknowledgement of the Donor and on public awareness on the project.

Communication target groups vs communication actions:

- Researchers and other staff of PPs - internal communication, project meetings, project website (and intranet), biannual bulletins
- Scientific community - scientific publications, international conferences, regional seminars (as organised within WP3)
- Health, veterinary and research institutions and biotech companies, at national and regional level - project website, regional seminars, project events
- Lay public - project website, project events

All PPs will devote specific resources to contribute to communication activities and will provide necessary contents related to their project activities. The ICGEB, that has extensive experience in outreach activities at the international level, will coordinate the WP in close contact with the LP. In particular, an Outreach Officer and the ICGEB postdoctoral researcher working on TBFVnet, supported by other internal and external resources as necessary, will ensure communication tasks are properly handled. As well, the LP will ensure the contribution of a Project and Communication Manager of VRI.

ICGEB will also exploit its own network of Member Countries to approach key laboratories in TBFVs research and surveillance in the area (Bosnia and Herzegovina, Bulgaria, Croatia, Hungary, Moldova, Montenegro, North Macedonia, Romania, Slovenia, Serbia, Turkey). Other non-ICGEB neighboring countries of interest for EEA Norway will be approached through scientific contacts (Albania, Belarus, Estonia, Greece, Latvia, Lithuania, Poland, Ukraine). Interested labs will be involved to share data, protocols and reagents, upon specific agreements with the TBFVnet. NIPH will contribute with its networks in Scandinavia and Europe.

Start date	01/07/2020
End date	31/01/2024

Activities

Please indicate activities within this WP. Attribute the start and end dates and project partner to each activity. Please remember the partner shall be responsible for both implementation of the activity and its costs. Add as many rows as you need.

Activities	Forecasted start date	Forecasted end date	Name of responsible partner
Development of communication plan	01/07/2020	30/09/2020	International Centre for Genetic Engineering and Biotechnology - ICGEB
Identification of key stakeholders in PPs countries and in other countries in the target Region	01/08/2020	31/12/2023	International Centre for Genetic Engineering and Biotechnology - ICGEB
Organisation of the launching event	01/07/2020	31/07/2020	Veterinary Research Institute
Creation of project website and production of leaflets and other promotional materials	01/07/2020	31/12/2020	International Centre for Genetic Engineering and Biotechnology - ICGEB
Preparation of web updates, posts on social media and six-month bulletins	01/11/2020	31/01/2024	International Centre for Genetic Engineering and Biotechnology - ICGEB
Scientific publications (OA) and presentations in scientific conferences such as the International Congress of Virology, Czechoslovak Conference of Virology, Ticks and Tick-borne Diseases meeting	01/03/2022	31/01/2024	Veterinary Research Institute
Scientific publications (OA) and presentations of project results in national and international scientific conferences such as as IJSTD, Antivirals, and others.	01/03/2022	31/01/2024	«Chumakov Federal Scientific Center for Research and Development of Immune-and-biological Products of Russian Academy of Sciences» (FSBSI "Chumakov FSC R&D IBP RAS")
Scientific publications (OA) and presentations of results in national and international scientific conferences such as ISTTBD in Weimar, Czechoslovak Virology Conference in Brno, and others	01/03/2022	31/01/2024	Biomedical Research Center of the Slovak Academy of Sciences
Scientific publications (OA) and presentations of results in national and international scientific conferences such as TTP10, JENA conference, Nor-Tick and SNÄFF	01/03/2022	31/01/2024	Norwegian Institute of Public Health
Scientific publications (OA) and presentations in international conferences	01/03/2022	31/01/2024	Umeå University

(European Congress of Virology, Positive-Strand RNA Viruses Keystone Symposium, Gordon conference on cells and viruses)			
Scientific publications (OA) and presentations in national and international conferences such as European Congress of Virology, American Society of Virology, Gordon and Keystone meetings of Virology	01/03/2022	31/01/2024	International Centre for Genetic Engineering and Biotechnology - ICGEB
TBFVnet closing event	01/10/2023	31/01/2024	Veterinary Research Institute

WP 3

Work package title	Training and transfer of knowledge on surveillance at the regional level
Responsible partner	Norwegian Institute of Public Health
Budget	€ 424.534,20

Please describe the work package.

What is the purpose of the work package? What are the target groups of the work package (if applicable)?What activities will be undertaken within the work package? How will activities undertaken in this work package contribute to the outputs and outcomes of the project?

The aim of WP3 is to **establish shared tools and protocols for the comparable diagnosis and surveillance of TBFV in animals and humans**. Procedures to be implemented for TBFVs identification include molecular and serological techniques that are able to detect directly the pathogen or indirectly the immune response of the host. WP3 therefore foresees the **implementation and dissemination of specific diagnostic assays to all countries involved** through two complimentary activities coordinated by NIPH.

Three **regional seminars** on diagnostics and surveillance will be organised to disseminate the tools validated at NIPH also to neiboughring countries at the regional level.

Development of serological tests. Partner ICGEB has developed a novel ELISA based on the recombinant TBFV NS1 antigen. This assay has been validated on clinical samples and showed a high sensitivity and specificity, allowing also the detection of vaccine brake-through cases that are a concern particularly for the elderly. ICGEB will make this test available to NIPH first, and then to all TBFVnet partners for the analysis of TBEV IgM/G. **Practical training of one-week duration will be given at ICGEB to all PPs**. This NS1 ELISA will be expanded to POWV, OHFV and LIV and tested in experimentally infected animals at CFSC to evaluate sensitivity and cross-reactivity. In addition, CFSC and ICGEB will exchange research material and one researcher from ICGEB will visit CFSC for a period of 1 month.

Development of molecular tests. Sensitive and specific Real-Time PCR and Next Generation Sequencing techniques (NGS) for high viral load TBEV have been developed at NIPH. **A standardized protocol of RT-PCR will be implemented for TBEV and shared among partners** thorough a written protocol with associated standards and controls developed at

NIPH. A **databank of TBFV sequences** to be linked to the European Virus Archive (EVAg) will be prepared by VRI with the inputs from CFSC, SAS and NIPH. New sets of primers and probes for RT PCR of TBFV will be tested at NIPH. A pipeline for direct sequencing of viral samples will be implemented at NIPH and used to detect TBFV isolates from the field collected in 2 joint seasonal expeditions from NIPH and CFSC. These sequences will be further added to the databank.

Serological and molecular tests will be validated using human samples adhering stricktly to the ethical regulation of the partners' countries and health institutions.

Start date	01/07/2020
End date	31/12/2023

Outcomes and Outputs

Please select the outcomes and outputs to which this work package will contribute.

Outcome	Outputs
Enhanced performance of research institutions	Training on diagnostic assays delivered
Enhanced cooperation and improved mutual knowledge and understanding between the donor and beneficiary states.	Scientific interaction between Donor and Beneficiary States facilitated

Outputs and Activities

For each output, which will be produced in this work package, describe the activities needed to achieve it. Please indicate start and end dates and project partner to each activity. Please remember the Partner shall be responsible for both implementation of the activity and its costs.

Outputs	Activities	Forecasted start date	Forecasted end date	Name of responsible partner
Training on diagnostic assays delivered	Preparation and exchange of research material and training on TBEV NS1 based ELISA	01/08/2020	31/12/2022	International Centre for Genetic Engineering and Biotechnology - ICGEB
	One-week training at the ICGEB for Beneficiary partner VRI	01/06/2021	31/10/2021	Veterinary Research Institute
	One-week training at the ICGEB for Beneficiary partner CFSC	01/06/2021	31/10/2021	«Chumakov Federal Scientific Center for Research and Development of Immune-and-biological Products of Russian Academy of Sciences» (FSBSI "Chumakov FSC R&D IBP RAS")
	One-week training at the ICGEB for Beneficiary partner SAS	01/06/2021	31/10/2021	Biomedical Research Center of the Slovak Academy of Sciences
	One-week training at the ICGEB for Donor State NIPH	01/06/2021	31/10/2021	Norwegian Institute of Public Health

	Experiments at CFSC (POWV, OHFV and LIV NS1 based ELISA)	01/05/2021	31/05/2023	«Chumakov Federal Scientific Center for Research and Development of Immune-and-biological Products of Russian Academy of Sciences» (FSBSI "Chumakov FSC R&D IBP RAS")
	One-month visit at CFSC for tests validation (POWV, OHFV and LIV NS1 based ELISA)	01/03/2023	31/05/2023	International Centre for Genetic Engineering and Biotechnology - ICGEB
	Collection of ticks and measurements of climatic parameters	01/07/2020	30/11/2020	Norwegian Institute of Public Health
	Test and evaluation of TBEV NS1 based ELISA	01/07/2020	30/11/2023	Norwegian Institute of Public Health
	Creation of a databank of TBFV sequences and availability of the same to the scientific community	01/10/2020	30/09/2023	Veterinary Research Institute
	Set up of diagnostics for TBEV	01/08/2020	30/11/2023	Biomedical Research Center of the Slovak Academy of Sciences
	Test of new set of RT PCR primers for TBFV diagnosis	01/10/2021	31/05/2023	Norwegian Institute of Public Health
Scientific interaction between Donor and Beneficiary States facilitated	Preparation and sharing of diagnostic protocol for TBEV RT PCR with standards and controls with all PPs and expanded network, and delivery of short term training sessions to Beneficiary Partners	01/07/2020	31/12/2021	Norwegian Institute of Public Health
	Development of pipeline for direct sequencing of viral isolates and tested on the field	01/08/2020	31/08/2023	Norwegian Institute of Public Health
	Short term training of staff at NIPH for RT PCR and sequencing for Beneficiary partner VRI	01/10/2020	30/11/2023	Veterinary Research Institute

Short term training of staff at NIPH for RT PCR and sequencing for Beneficiary partner CFSC	01/10/2020	30/11/2023	«Chumakov Federal Scientific Center for Research and Development of Immune-and-biological Products of Russian Academy of Sciences» (FSBSI "Chumakov FSC R&D IBP RAS")
Short term training of staff at NIPH for RT PCR and sequencing for Beneficiary partner SAS	01/10/2020	30/11/2023	Biomedical Research Center of the Slovak Academy of Sciences
TBFVnet (first) regional seminar	01/08/2021	31/10/2021	Norwegian Institute of Public Health
TBFVnet (second) regional seminar	01/08/2022	31/10/2022	International Centre for Genetic Engineering and Biotechnology - ICGEB
TBFVnet (third) regional seminar	01/08/2023	31/10/2023	Biomedical Research Center of the Slovak Academy of Sciences

WP 4

Work package title	Collaborative research for antiviral drug discovery
Responsible partner	Biomedical Research Center of the Slovak Academy of Sciences
Budget	€ 556.212,66

Please describe the work package.

What is the purpose of the work package? What are the target groups of the work package (if applicable)?What activities will be undertaken within the work package? How will activities undertaken in this work package contribute to the outputs and outcomes of the project?

The aim of WP4 is to **provide a shared research framework to study TBFV pathogenesis in order to quickly respond to TBFV infections** with the appropriate treatments. Molecular correlates of TBFV pathogenesis will be studied taking advantage of the expertise partners MIMS and ICGEB. Models of tick-borne transmission, infection and tissue tropism will be available at VRI, CFSC and SAS. WP4 therefore aims at the implementation of models of TBFV pathogenesis designed to test antiviral strategies. All in vivo studies will be conducted according to national and international ethical standards.

Research on the pathogenesis of TBFVs. Models of TBEV pathogenesis *in vivo* have been developed by VRI, CFSC and SAS. These include tick-bite route of infection. Comparative studies of tissue invasion and viral spread using different strains of TBFV will be conducted applying the same protocols in different laboratories and sharing reagents. PPs will share information (through meetings and conference calls) about their respective models and define comparative studies to be then implemented by the junior scientists in their respective

institutions. A **junior scientist from VRI, SAS and CFSC will make shorter and longer visits in each other laboratory to confront protocols and reagents**. Readout assays will include novel molecular tools and imaging technologies implemented by expertise partners MIMS and ICGEB. A junior scientist from CFSC will visit ICGEB for 2 months, while a junior scientist from VRI will visit MIMS three times for 2 months each.

Research on drug discovery. Partners VRI and CFSC, as well as expertise partners ICGEB and MIMS, have a pipeline for drug discovery and neutralizing antibodies that will be tested in **cross-laboratory experiments**. This will be implemented by defining a common strategy of antiviral testing from *in vitro* to *in vivo* by constant interactions through conference calls and exchange of protocols and reagents between laboratories. A junior scientist from CFSC, ICGEB and MIMS will visit SAS (4 months) to test antiviral strategies in a model of tick-bite infection that has been uniquely established in this laboratory. A general scheme for data sharing and IP protection will be implemented by ICGEB.

Start date	01/07/2020
End date	31/12/2023

Outcomes and Outputs

Please select the outcomes and outputs to which this work package will contribute.

Outcome	**Outputs**
Enhanced performance of research institutions	Cross-labs experiments for antiviral drug discovery conducted

Outputs and Activities

For each output, which will be produced in this work package, describe the activities needed to achieve it. Please indicate start and end dates and project partner to each activity. Please remember the Partner shall be responsible for both implementation of the activity and its costs.

Outputs	**Activities**	**Forecasted start date**	**Forecasted end date**	**Name of responsible partner**
Cross-labs experiments for antiviral drug discovery conducted	Exchange of junior staff (one month total time for each visit for the duration of the activity) of VRI to SAS and CFSC for the definition of a common strategy on TBFV pathogenesis studies	01/06/2021	30/09/2022	Veterinary Research Institute
	Exchange of junior staff (one month total time for each visit for the duration of the activity) of CFSC to SAS and VRI for the definition of a common strategy on TBFV pathogenesis studies	01/06/2021	30/09/2022	«Chumakov Federal Scientific Center for Research and Development of Immune-and-biological Products of Russian Academy of Sciences» (FSBSI "Chumakov FSC R&D IBP RAS")

Exchange of junior staff (one month total time for each visit for the duration of the activity) of SAS to VRI and CFSC for the definition of a common strategy on TBFV pathogenesis studies	01/06/2022	30/09/2022	Biomedical Research Center of the Slovak Academy of Sciences
2-month visit to ICGEB for the definition of novel readout techniques with expertise partners	01/01/2022	31/03/2022	«Chumakov Federal Scientific Center for Research and Development of Immune-and-biological Products of Russian Academy of Sciences» (FSBSI "Chumakov FSC R&D IBP RAS")
6-month visit to MIMS for the definition of novel readout techniques with expertise partners	01/05/2021	30/11/2022	Veterinary Research Institute
Development and implementation of novel imaging techniques	01/05/2021	31/12/2023	Umeå University
Set up of in vivo models for testing	01/09/2021	31/08/2023	Veterinary Research Institute
Preparation for cross-labs experiments for testing of antiviral strategies on a model of tick bite infection	01/05/2022	31/12/2023	Biomedical Research Center of the Slovak Academy of Sciences
Exchange of junior staff of CFSC to SAS (one month total time for each visit for the duration of the activity)	01/05/2022	31/12/2023	«Chumakov Federal Scientific Center for Research and Development of Immune-and-biological Products of Russian Academy of Sciences» (FSBSI "Chumakov FSC R&D IBP RAS")
Exchange of junior staff of MIMS to SAS (one month total time for each visit for the duration of the activity)	01/05/2022	31/12/2023	Umeå University
Exchange of junior staff of ICGEB to SAS (one month total time for each visit for the duration of the activity)	01/05/2022	31/12/2023	International Centre for Genetic Engineering and Biotechnology - ICGEB

	Preliminary studies on TBFV pathogenesis	01/05/2021	31/05/2023	«Chumakov Federal Scientific Center for Research and Development of Immune-and-biological Products of Russian Academy of Sciences» (FSBSI "Chumakov FSC R&D IBP RAS")
	Definition of a general scheme for IP protection in the context of reagents exchange	30/11/2020	31/08/2021	International Centre for Genetic Engineering and Biotechnology - ICGEB

SECTION 5 - Project budget

5.1 Detailed Project Budget

Activity	Cost description	Budget heading	Unit type	Nb. of units	Unit cost (EUR)	Amount (EUR)	Total estimated eligible direct costs per activity (EUR)
Daily management and liaison with the FO	Project manager (admin, financial and communication), 30% time equivalent	BH1 - Staff Costs	Month	43,00	454,97	19.563,71	19.563,71
PSC set-up, organisation of PSC meetings and consortium technical updates	Principal Investigator (Prof. Ruzek)	BH1 - Staff Costs	Month	4,80	3.769,00	18.091,20	25.091,20
	Travel costs in relation to Czech regulations (per diem, accommodation, airfare)	BH2 - Travel Costs and Related Subsistence Allowances	Item	14,00	500,00	7.000,00	
Participation in PSC meetings, consortium technical updates and other project meetings	Transport - person/round trip	BH2 - Travel Costs and Related Subsistence Allowances	Item	14,00	600,00	8.400,00	21.280,00
	Per diem (incl. accommodation)/4 day trip	BH2 - Travel Costs and Related Subsistence Allowances	Item	14,00	920,00	12.880,00	
Participation in PSC meetings, consortium technical updates and other project meetings	Principal Investigator	BH1 - Staff Costs	Month	1,00	2.832,00	2.832,00	19.032,00
	Per diem (incl. accommodation)	BH2 - Travel Costs and Related Subsistence Allowances	Day	52,00	150,00	7.800,00	
	Transport - roundtrip/person	BH2 - Travel Costs and Related Subsistence Allowances	Item	14,00	600,00	8.400,00	

Participation in PSC meetings, consortium technical updates and other project meetings	Travel cost in relation to Norwegian regulations for one person	BH2 - Travel Costs and Related Subsistence Allowances	Item	8,00	1.200,00	9.600,00	33.600,00
	Travel expenses for internal and external investigators and junior researchers, conference meals including dinner	BH2 - Travel Costs and Related Subsistence Allowances	Item	5,00	4.800,00	24.000,00	
Participation in PSC meetings, consortium technical updates and other project meetings	Travel, hotel to attend the meetings. The meeting includes the PSC, necessary technical meetings, the TBFVnet regional seminar 1-3 and the closing event. One item is all costs associated with the meeting for one person and the unit is number of people attending from MIMS.	BH2 - Travel Costs and Related Subsistence Allowances	Item	10,00	800,00	8.000,00	8.000,00
Participation in PSC meetings, consortium technical updates and other project meetings	Principal Investigator, 0,25months FTE	BH1 - Staff Costs	Month	0,25	11.000,00	2.750,00	7.750,00
	Travel costs for PI and/or other ICGEB staff involved in the project, including transport and DSA/accommodation	BH2 - Travel Costs and Related Subsistence Allowances	Item	5,00	1.000,00	5.000,00	
Narrative and Financial reporting and Audits	Costs for audit	BH5 - Project Contract Requirements Costs	Item	8,00	250,00	2.000,00	2.000,00

Narrative and Financial reporting and Audits	Senior researcher (12.5% fixed part-time) * 1 person - EUR/0.125 regular rate/day	BH1 - Staff Costs	Day	800,00	12,50	10.000,00	11.600,00
	Costs for audit	BH5 - Project Contract Requirements Costs	Item	8,00	200,00	1.600,00	
Narrative and Financial reporting and Audits	Principal Investigator	BH1 - Staff Costs	Month	1,00	2.832,00	2.832,00	5.832,00
	Audit costs for the entire project	BH5 - Project Contract Requirements Costs	Item	8,00	375,00	3.000,00	
Narrative and Financial reporting and Audits	Audit costs, administration and ordering expenses, budget revision	BH5 - Project Contract Requirements Costs	Service	8,00	450,00	3.600,00	3.600,00
Narrative and Financial reporting and Audits	Cost for external audit	BH5 - Project Contract Requirements Costs	Item	8,00	250,00	2.000,00	2.000,00
Narrative and Financial reporting and Audits	Financial Manager, 2m FTE	BH1 - Staff Costs	Month	2,00	5.900,00	11.800,00	14.800,00
	Costs for project audits	BH5 - Project Contract Requirements Costs	Item	8,00	375,00	3.000,00	
Mid-term internal evaluation	Project manager (admin, financial and communication), 25% time equivalent	BH1 - Staff Costs	Month	2,00	257,00	514,00	514,00
Development of communication plan	Outreach & communication officer, 0,5m FTE	BH1 - Staff Costs	Month	0,50	8.833,00	4.416,50	6.416,50
	Costs for external service/collaborator for communication activities	BH6 - Subcontracting Costs	Service	1,00	2.000,00	2.000,00	

Identification of key stakeholders in PPs countries and in other countries in the target Region	Researcher 1m FTE	BH1 - Staff Costs	Month	1,00	4.000,00	4.000,00	7.000,00
	Costs for external service/collaborator for communication activities	BH6 - Subcontracting Costs	Service	1,00	3.000,00	3.000,00	
Organisation of the launching event	Principal Investigator ( )	BH1 - Staff Costs	Month	1,00	3.769,00	3.769,00	6.269,00
	Rental of lecture room and presentation technique, catering	BH6 - Subcontracting Costs	Item	1,00	2.500,00	2.500,00	
Creation of project website and production of leaflets and other promotional materials	Costs for external service	BH6 - Subcontracting Costs	Service	1,00	5.000,00	5.000,00	5.000,00
Preparation of web updates, posts on social media and six-month bulletins	Outreach & communication officer, 1,5m FTE	BH1 - Staff Costs	Month	1,50	8.833,00	13.249,50	17.249,50
	Researcher 1m FTE	BH1 - Staff Costs	Month	1,00	4.000,00	4.000,00	
Scientific publications (OA) and presentations in scientific conferences such as the International Congress of Virology, Czechoslovak Conference of Virology, Ticks and Tick-borne Diseases meeting	Principal Investigator ( )	BH1 - Staff Costs	Month	2,80	3.769,00	10.553,20	18.053,20
	Open access publishing costs	BH6 - Subcontracting Costs	Item	3,00	1.500,00	4.500,00	
	Travel costs in relation to Czech regulations (per diem, accommodation, airfare)	BH2 - Travel Costs and Related Subsistence Allowances	Item	6,00	500,00	3.000,00	
Scientific publications (OA) and presentations of project results in national and	Leading researcher (12.5% fixed part-time)*1 person - EUR/0.125 regular rate/day	BH1 - Staff Costs	Day	800,00	12,50	10.000,00	30.920,00

international scientific conferences such as as IJSTD, Antivirals, and others.	Publication Fee	BH6 - Subcontracting Costs	Item	4,00	1.750,00	7.000,00	
	Per diem (incl. accommodation)/4 day trip	BH2 - Travel Costs and Related Subsistence Allowances	Item	6,00	920,00	5.520,00	
	Transport / person/round trip	BH2 - Travel Costs and Related Subsistence Allowances	Item	6,00	600,00	3.600,00	
	Registration fee / person/conference	BH6 - Subcontracting Costs	Item	6,00	800,00	4.800,00	
Scientific publications (OA) and presentations of results in national and international scientific conferences such as ISTTBD in Weimar, Czechoslovak Virology Conference in Brno, and others	Principal investigator	BH1 - Staff Costs	Month	2,00	2.832,00	5.664,00	13.664,00
	Per diem (incl. accommodation) day for participation in scientific conferences	BH2 - Travel Costs and Related Subsistence Allowances	Day	8,00	150,00	1.200,00	
	Open access publication fees	BH6 - Subcontracting Costs	Item	2,00	2.000,00	4.000,00	
	Transport for participation in scientific conferences - roundtrip per person	BH2 - Travel Costs and Related Subsistence Allowances	Item	2,00	600,00	1.200,00	
	Registration fees - person/conference	BH6 - Subcontracting Costs	Item	2,00	800,00	1.600,00	
Scientific publications (OA) and presentations of results in national and international scientific conferences such as TTP10, JENA conference, Nor-Tick and SNÄFF	Publication costs	BH6 - Subcontracting Costs	Item	2,00	2.400,00	4.800,00	10.800,00
	Travel costs and allowances for participation in conferences in relation to Norwegian regulations for one person	BH2 - Travel Costs and Related Subsistence Allowances	Item	5,00	1.200,00	6.000,00	

Scientific publications (OA) and presentations in international conferences (European Congress of Virology, Positive-Strand RNA Viruses Keystone Symposium, Gordon conference on cells and viruses)	Costs associated with publication in peer review international journals, one item one publication	BH6 - Subcontracting Costs	Item	4,00	2.500,00	10.000,00	22.000,00
	Registration, travel and hotel costs to attend international conferences and present data from the projects - one item for one person	BH2 - Travel Costs and Related Subsistence Allowances	Item	6,00	2.000,00	12.000,00	
Scientific publications (OA) and presentations in national and international conferences such as European Congress of Virology, American Society of Virology, Gordon and Keystone meetings of Virology	Principal Investigator, 0,1months FTE	BH1 - Staff Costs	Month	0,10	11.000,00	1.100,00	12.100,00
	Researcher 1m FTE	BH1 - Staff Costs	Month	1,00	4.000,00	4.000,00	
	Travel costs for PI and/or researcher, including transport and DSA/accommodation,	BH2 - Travel Costs and Related Subsistence Allowances	Item	2,00	1.000,00	2.000,00	
	Costs for scientific publications	BH6 - Subcontracting Costs	Item	2,00	2.500,00	5.000,00	
TBFVnet closing event	Principal Investigator ( )	BH1 - Staff Costs	Month	1,00	3.769,00	3.769,00	6.269,00
	Rental of lecture room and presentation technique, catering	BH6 - Subcontracting Costs	Item	1,00	2.500,00	2.500,00	
Preparation and exchange of research material and training on TBEV NS1 based ELISA	Principal Investigator, 0,25months FTE	BH1 - Staff Costs	Month	0,25	11.000,00	2.750,00	138.750,00
	Researcher 22m FTE	BH1 - Staff Costs	Month	22,00	4.000,00	88.000,00	
	Reagents and lab consumables estimated costs for project activities 12,000 E/Y	BH3 - Consumables and Supplies	Set	4,00	12.000,00	48.000,00	

One-week training at the ICGEB for Beneficiary partner VRI	Researcher	BH1 - Staff Costs	Month	2,00	2.301,00	4.602,00	8.102,00
	Travel costs in relation to Czech regulations (per diem, accommodation, airfare)	BH2 - Travel Costs and Related Subsistence Allowances	Item	7,00	500,00	3.500,00	
One-week training at the ICGEB for Beneficiary partner CFSC	Per diem (incl. accommodation) / person/5 day trip	BH2 - Travel Costs and Related Subsistence Allowances	Item	1,00	1.150,00	1.150,00	1.750,00
	Transport	BH2 - Travel Costs and Related Subsistence Allowances	Item	1,00	600,00	600,00	
One-week training at the ICGEB for Beneficiary partner SAS	Per diem (incl. accommodation)	BH2 - Travel Costs and Related Subsistence Allowances	Day	5,00	150,00	750,00	1.350,00
	Transport - roundtrip/person	BH2 - Travel Costs and Related Subsistence Allowances	Item	1,00	600,00	600,00	
One-week training at the ICGEB for Donor State NIPH	Travel cost in relation to Norwegian regulations for one person	BH2 - Travel Costs and Related Subsistence Allowances	Item	1,00	1.500,00	1.500,00	1.500,00
Experiments at CFSC (POWV, OHFV and LIV NS1 based ELISA)	Supplies (plastics and reagents)	BH3 - Consumables and Supplies	Item	1,00	6.000,00	6.000,00	10.500,00
	Laboratory animals / 30 mice	BH3 - Consumables and Supplies	Set	3,00	250,00	750,00	
	Laboratory animals (housing costs) / 30 mice/per day	BH3 - Consumables and Supplies	Set	75,00	50,00	3.750,00	
One-month visit at CFSC for tests	Researcher 2m FTE	BH1 - Staff Costs	Month	2,00	4.000,00	8.000,00	11.000,00

validation (POWV, OHFV and LIV NS1 based ELISA)	Travel costs for researcher including accommodation and living/DSA	BH2 - Travel Costs and Related Subsistence Allowances	Item	1,00	3.000,00	3.000,00	
Collection of ticks and measurements of climatic parameters	Travel cost in relation to Norwegian regulations for one person	BH2 - Travel Costs and Related Subsistence Allowances	Item	3,00	5.000,00	15.000,00	15.000,00
Test and evaluation of TBEV NS1 based ELISA	Costs for comparison of TBEV NS1 ELISA to commercial kits used for reference function	BH3 - Consumables and Supplies	Item	6,00	500,00	3.000,00	3.000,00
Creation of a databank of TBFV sequences and availability of the same to the scientific community	Researcher	BH1 - Staff Costs	Month	12,00	2.301,00	27.612,00	27.612,00
Set up of diagnostics for TBEV	Postdoc researchers	BH1 - Staff Costs	Month	12,00	1.772,00	21.264,00	66.784,00
	Technician	BH1 - Staff Costs	Month	12,00	1.002,00	12.024,00	
	Principal Investigator	BH1 - Staff Costs	Month	3,00	2.832,00	8.496,00	
	Consumables for serological work and for RT-PCR and NGS	BH3 - Consumables and Supplies	Item	1,00	25.000,00	25.000,00	
Test of new set of RT PCR primers for TBFV diagnosis	Consumables and supplies and freight cost	BH3 - Consumables and Supplies	Item	5,00	800,00	4.000,00	4.000,00

Preparation and sharing of diagnostic protocol for TBEV RT PCR with standards and controls with all PPs and expanded network, and delivery of short term training sessions to Beneficiary Partners	Cultivation of reference virus and freight cost	BH3 - Consumables and Supplies	Service	4,00	700,00	2.800,00	2.800,00
Development of pipeline for direct sequencing of viral isolates and tested on the field	Cultivation of virus, Primers, Kapa hyper plus kits, MiSeq NGS kits, MinIon library prep with barcodes, MinIon flow cells	BH3 - Consumables and Supplies	Item	6,00	4.625,00	27.750,00	27.750,00
Short term training of staff at NIPH for RT PCR and sequencing for Beneficiary partner VRI	Researcher	BH1 - Staff Costs	Month	10,00	2.301,00	23.010,00	24.510,00
	Travel costs in relation to Czech regulations (per diem, accommodation, airfare) events organized by FO	BH2 - Travel Costs and Related Subsistence Allowances	Item	3,00	500,00	1.500,00	
Short term training of staff at NIPH for RT PCR and sequencing for Beneficiary partner CFSC	Leading researcher (12.5% fixed part-time)*1 person - EUR/0.125 regular rate/day	BH1 - Staff Costs	Day	400,00	12,50	5.000,00	20.475,00
	Junior researcher/Researcher (25% fixed part-time)*2 people - EUR/0.25 regular rate/day	BH1 - Staff Costs	Day	800,00	12,50	10.000,00	

	PhD student (25% fixed part-time)*1 person - EUR/0.25 regular rate/day	BH1 - Staff Costs	Day	400,00	8,75	3.500,00	
	Per diem (incl. accommodation)/ EUR/person/5 day trip	BH2 - Travel Costs and Related Subsistence Allowances	Item	1,00	1.375,00	1.375,00	
	Transport EUR/person/round trip	BH2 - Travel Costs and Related Subsistence Allowances	Item	1,00	600,00	600,00	
Short term training of staff at NIPH for RT PCR and sequencing for Beneficiary partner SAS	Per diem (incl. accommodation)	BH2 - Travel Costs and Related Subsistence Allowances	Day	5,00	150,00	750,00	1.350,00
	Transport - roundtrip/person	BH2 - Travel Costs and Related Subsistence Allowances	Item	1,00	600,00	600,00	
TBFVnet (first) regional seminar	Organisation costs, travel expenses for speakers and external partners of NIPH, conference meals including dinner	BH6 - Subcontracting Costs	Service	1,00	10.000,00	10.000,00	10.000,00
TBFVnet (second) regional seminar	Principal Investigator, 0,25months FTE	BH1 - Staff Costs	Month	0,25	11.000,00	2.750,00	7.750,00
	Organisation of the seminar - Costs for external service/collaborator for communication activities	BH6 - Subcontracting Costs	Service	1,00	5.000,00	5.000,00	
TBFVnet (third) regional seminar	Costs related with the seminar organisation	BH6 - Subcontracting Costs	Service	1,00	8.000,00	8.000,00	8.000,00

Exchange of junior staff (one month total time for each visit for the duration of the activity) of VRI to SAS and CFSC for the definition of a common strategy on TBFV pathogenesis studies	Researcher	BH1 - Staff Costs	Month	6,00	2.301,00	13.806,00	19.806,00
	Travel costs in relation to Czech regulations (per diem, accommodation, airfare)	BH2 - Travel Costs and Related Subsistence Allowances	Item	12,00	500,00	6.000,00	
Exchange of junior staff (one month total time for each visit for the duration of the activity) of CFSC to SAS and VRI for the definition of a common strategy on TBFV pathogenesis studies	Per diem (incl. accommodation) / EUR/person/1 month trip	BH2 - Travel Costs and Related Subsistence Allowances	Item	2,00	3.500,00	7.000,00	8.200,00
	Transport - EUR/person/round trip	BH2 - Travel Costs and Related Subsistence Allowances	Item	2,00	600,00	1.200,00	
Exchange of junior staff (one month total time for each visit for the duration of the activity) of SAS to VRI and CFSC for the definition of a common strategy on TBFV pathogenesis studies	Per diem (incl. accommodation)	BH2 - Travel Costs and Related Subsistence Allowances	Day	45,00	150,00	6.750,00	7.950,00
	Transport - roundtrip/person	BH2 - Travel Costs and Related Subsistence Allowances	Item	2,00	600,00	1.200,00	
2-month visit to ICGEB for the definition of novel readout techniques with expertise partners	Per diem (incl. accommodation) - EUR/person/2 month trip	BH2 - Travel Costs and Related Subsistence Allowances	Item	1,00	7.000,00	7.000,00	7.600,00

	Transport - EUR/person/round trip	BH2 - Travel Costs and Related Subsistence Allowances	Item	1,00	600,00	600,00	
6-month visit to MIMS for the definition of novel readout techniques with expertise partners	Researcher	BH1 - Staff Costs	Month	6,00	2.301,00	13.806,00	17.306,00
	Travel costs in relation to Czech regulations (per diem, accommodation, airfare)	BH2 - Travel Costs and Related Subsistence Allowances	Item	7,00	500,00	3.500,00	
Development and implementation of novel imaging techniques	To develop and implement the whole brain imaging a permanent staff in MIMS will work on the project over 41 months at 50%	BH1 - Staff Costs	Month	41,00	2.330,00	95.530,00	137.880,00
	Consumable costs involved in performing the whole brain imaging as well as user fees of the microscopes. Monthly cost is indicated as consumables and user fees	BH3 - Consumables and Supplies	Month	41,00	850,00	34.850,00	
	Shipping costs for sending reagents to the different partners. Sending BLS3 classified viruses with world courier.	BH3 - Consumables and Supplies	Item	3,00	2.500,00	7.500,00	
Set up of in vivo models for testing	Researcher	BH1 - Staff Costs	Month	12,00	2.301,00	27.612,00	82.906,40
	Lab technician	BH1 - Staff Costs	Month	14,40	1.201,00	17.294,40	

	Purchase of mice, probes, anaesthesia, mouse bedding and diet, chemicals, PPE	BH3 - Consumables and Supplies	Item	1,00	38.000,00	38.000,00	
Preparation for cross-labs experiments for testing of antiviral strategies on a model of tick bite infection	Postdoctoral researchers	BH1 - Staff Costs	Month	24,00	1.772,00	42.528,00	101.114,00
	Technician	BH1 - Staff Costs	Month	12,00	1.002,00	12.024,00	
	Principal Investigator	BH1 - Staff Costs	Month	3,00	2.832,00	8.496,00	
	Consumables for RT-PCR and NGS	BH3 - Consumables and Supplies	Item	1,00	38.066,00	38.066,00	
Exchange of junior staff of CFSC to SAS (one month total time for each visit for the duration of the activity)	Per diem (incl. accommodation) - EUR/person/1 month trip	BH2 - Travel Costs and Related Subsistence Allowances	Item	1,00	3.500,00	3.500,00	4.100,00
	Transport - EUR/person/round trip	BH2 - Travel Costs and Related Subsistence Allowances	Item	1,00	600,00	600,00	
Exchange of junior staff of MIMS to SAS (one month total time for each visit for the duration of the activity)	Travel and hotel for MIMS personnel going to SAS, during one month at a time	BH2 - Travel Costs and Related Subsistence Allowances	Month	4,00	1.500,00	6.000,00	6.000,00
Exchange of junior staff of ICGEB to SAS (one month total time for each visit for the duration of the activity)	Researcher 3m FTE	BH1 - Staff Costs	Month	3,00	4.000,00	12.000,00	15.000,00
	Travel costs and related allowances for the mobility periods	BH2 - Travel Costs and Related Subsistence Allowances	Item	2,00	1.500,00	3.000,00	
Preliminary studies on TBFV pathogenesis	Leading researcher (12.5% fixed part-time)*2 people - EUR/0.125 regular rate/day	BH1 - Staff Costs	Day	800,00	12,50	10.000,00	96.000,00

	Researcher (25% fixed part-time)*3 people - EUR/0.25 regular rate/day	BH1 - Staff Costs	Day	1.200,00	17,50	21.000,00	
	Junior researcher (25% fixed part-time)*4 people - EUR/0.25 regular rate/day	BH1 - Staff Costs	Day	1.600,00	12,50	20.000,00	
	PhD student (25% fixed part-time)*3 people - EUR/0.25 regular rate/day	BH1 - Staff Costs	Day	1.200,00	8,75	10.500,00	
	Supplies (plastic and reagents)	BH3 - Consumables and Supplies	Item	1,00	30.000,00	30.000,00	
	Laboratory animals EUR/30 mice	BH3 - Consumables and Supplies	Set	3,00	250,00	750,00	
	Laboratory animals (housing) - EUR/30 mice/day	BH3 - Consumables and Supplies	Set	75,00	50,00	3.750,00	
Definition of a general scheme for IP protection in the context of reagents exchange	Principal Investigator, 0,15months FTE	BH1 - Staff Costs	Month	0,15	11.000,00	1.650,00	5.792,00
	Knowledge Transfer Manager, 1m FTE	BH1 - Staff Costs	Month	1,00	4.142,00	4.142,00	
Total estimated eligible direct costs (EUR)							1.232.041,00
BH7 - Indirect cost (15% of BH1+BH1A) (EUR)							99.045,00
Total estimated eligible project costs (EUR)							1.331.086,00

5.2 Overview table WP/Output/Activity

WP	WP total budget	Output	Output total budget	Activity	Activity total budget
Management	184.920,35	Management outputs	184.920,35	Daily management and liaison with the FO	22.498,27

PSC set-up, organisation of PSC meetings and consortium technical updates	27.804,88
Participation in PSC meetings, consortium technical updates and other project meetings	21.280,00
Participation in PSC meetings, consortium technical updates and other project meetings	19.456,80
Participation in PSC meetings, consortium technical updates and other project meetings	33.600,00
Participation in PSC meetings, consortium technical updates and other project meetings	8.000,00
Participation in PSC meetings, consortium technical updates and other project meetings	8.162,50
Narrative and Financial reporting and Audits	2.000,00
Narrative and Financial reporting and Audits	13.100,00
Narrative and Financial reporting and Audits	6.256,80
Narrative and Financial reporting and Audits	3.600,00
Narrative and Financial reporting and Audits	2.000,00
Narrative and Financial reporting and Audits	16.570,00

				Mid-term internal evaluation	591,10
Communication	165.419,37	Communication outputs	165.419,37	Development of communication plan	7.078,97
				Identification of key stakeholders in PPs countries and in other countries in the target Region	7.600,00
				Organisation of the launching event	6.834,35
				Creation of project website and production of leaflets and other promotional materials	5.000,00
				Preparation of web updates, posts on social media and six-month bulletins	19.836,92
				Scientific publications (OA) and presentations in scientific conferences such as the International Congress of Virology, Czechoslovak Conference of Virology, Ticks and Tick-borne Diseases meeting	19.636,18
				Scientific publications (OA) and presentations of project results in national and international scientific conferences such as as IJSTD, Antivirals, and others.	32.420,00

				Scientific publications (OA) and presentations of results in national and international scientific conferences such as ISTTBD in Weimar, Czechoslovak Virology Conference in Brno, and others	14.513,60
				Scientific publications (OA) and presentations of results in national and international scientific conferences such as TTP10, JENA conference, Nor-Tick and SNÄFF	10.800,00
				Scientific publications (OA) and presentations in international conferences (European Congress of Virology, Positive-Strand RNA Viruses Keystone Symposium, Gordon conference on cells and viruses)	22.000,00
				Scientific publications (OA) and presentations in national and international conferences such as European Congress of Virology, American Society of Virology, Gordon and Keystone meetings of Virology	12.865,00
				TBFVnet closing event	6.834,35
Training and transfer of knowledge on surveillance at the regional level	424.534,20	Training on diagnostic assays delivered	315.260,20	Preparation and exchange of research material and training on TBEV NS1 based ELISA	152.362,50

One-week training at the ICGEB for Beneficiary partner VRI	8.792,30
One-week training at the ICGEB for Beneficiary partner CFSC	1.750,00
One-week training at the ICGEB for Beneficiary partner SAS	1.350,00
One-week training at the ICGEB for Donor State NIPH	1.500,00
Experiments at CFSC (POWV, OHFV and LIV NS1 based ELISA)	10.500,00
One-month visit at CFSC for tests validation (POWV, OHFV and LIV NS1 based ELISA)	12.200,00
Collection of ticks and measurements of climatic parameters	15.000,00
Test and evaluation of TBEV NS1 based ELISA	3.000,00
Creation of a databank of TBFV sequences and availability of the same to the scientific community	31.753,80
Set up of diagnostics for TBEV	73.051,60
Test of new set of RT PCR primers for TBFV diagnosis	4.000,00

		Scientific interaction between Donor and Beneficiary States facilitated	109.274,00	Preparation and sharing of diagnostic protocol for TBEV RT PCR with standards and controls with all PPs and expanded network, and delivery of short term training sessions to Beneficiary Partners	2.800,00
				Development of pipeline for direct sequencing of viral isolates and tested on the field	27.750,00
				Short term training of staff at NIPH for RT PCR and sequencing for Beneficiary partner VRI	27.961,50
				Short term training of staff at NIPH for RT PCR and sequencing for Beneficiary partner CFSC	23.250,00
				Short term training of staff at NIPH for RT PCR and sequencing for Beneficiary partner SAS	1.350,00
				TBFVnet (first) regional seminar	10.000,00
				TBFVnet (second) regional seminar	8.162,50
				TBFVnet (third) regional seminar	8.000,00

Collaborative research for antiviral drug discovery	556.212,66	Cross-labs experiments for antiviral drug discovery conducted	556.212,66	Exchange of junior staff (one month total time for each visit for the duration of the activity) of VRI to SAS and CFSC for the definition of a common strategy on TBFV pathogenesis studies	21.876,90
				Exchange of junior staff (one month total time for each visit for the duration of the activity) of CFSC to SAS and VRI for the definition of a common strategy on TBFV pathogenesis studies	8.200,00
				Exchange of junior staff (one month total time for each visit for the duration of the activity) of SAS to VRI and CFSC for the definition of a common strategy on TBFV pathogenesis studies	7.950,00
				2-month visit to ICGEB for the definition of novel readout techniques with expertise partners	7.600,00
				6-month visit to MIMS for the definition of novel readout techniques with expertise partners	19.376,90
				Development and implementation of novel imaging techniques	152.209,50
				Set up of in vivo models for testing	89.642,36

				Preparation for cross-labs experiments for testing of antiviral strategies on a model of tick bite infection	110.571,20
				Exchange of junior staff of CFSC to SAS (one month total time for each visit for the duration of the activity)	4.100,00
				Exchange of junior staff of MIMS to SAS (one month total time for each visit for the duration of the activity)	6.000,00
				Exchange of junior staff of ICGEB to SAS (one month total time for each visit for the duration of the activity)	16.800,00
				Preliminary studies on TBFV pathogenesis	105.225,00
				Definition of a general scheme for IP protection in the context of reagents exchange	6.660,80

5.3 Project co-financing

Please describe the consortium's operational and financial capacity to provide the required co-financing.

All PPs have operational and financial capacity to implement the project and to provide the required co-financing, which mainly refer to Staff costs and internal institutional resources. In particular:

- the LP VRI will secure institutional funding from the State Budget of the Czech Republic (via the Ministry of Agriculture)

- the CSFC will co-finance with staff salaries and/or supplies from own institutional (internal) funds

- the SAS will secure institutional funding of permanent staff

- the MIMS will secure own institutional funding

- the ICGEB will secure the core budget for salaries of involved staff

Partner number	Partner name	Country	Type of partner (lead, beneficiary, expertise)	Legal status	Total estimated eligible costs (in EUR)	Total estimated grant		Total estimated co-financing	
						% of total estimated eligible costs	Amount (in EUR)	Value (in EUR)	Of which BH1A (in EUR)
1	Veterinary Research Institute	Czech Republic	Lead partner	University or research institution	€ 285.602,89	% 90,00	€ 257.042,60	€ 28.560,29	€ 0,00
2	«Chumakov Federal Scientific Center for Research and Development of I mmune-and-biological Products of Russian Academy of Sciences» (FSBSI "Chumakov FSC R&D IBP RAS")	Russia	Beneficiary partner	University or research institution	€ 227.425,00	% 90,00	€ 204.682,50	€ 22.742,50	€ 0,00
3	Biomedical Research Center of the Slovak Academy of Sciences	Slovakia	Beneficiary partner	University or research institution	€ 242.500,00	% 90,00	€ 218.250,00	€ 24.250,00	€ 0,00
4	Norwegian Institute of Public Health	Norway	Expertise partner	Public	€ 112.050,00	% 100,00	€ 112.050,00	€ 0,00	€ 0,00
5	Umeå University	Sweden	Expertise partner	University or research institution	€ 190.209,50	% 90,00	€ 171.188,55	€ 19.020,95	€ 0,00

Partner number	Partner name	Country	Type of partner (lead, beneficiary, expertise)	Legal status	Total estimated eligible costs (in EUR)	Total estimated grant		Total estimated co-financing	
						% of total estimated eligible costs	Amount (in EUR)	Value (in EUR)	Of which BH1A (in EUR)
6	International Centre for Genetic Engineering and Biotechnology - ICGEB	International	Expertise partner	International organisation	€ 273.299,19	% 85,00	€ 232.304,31	€ 40.994,88	€ 0,00

Total estimated eligible project costs (in EUR)	€ 1.331.086,00
Maximum estimated project grant (in EUR)	€ 1.195.517,00
Total estimated project co-financing (in EUR)	€ 135.569,00

5.4 Work package cost per budget headings

	BH1 - Staff Costs	BH1a - Voluntary Work	BH2 - Travel Costs and Related Subsistence Allowances	BH3 - Consumables and Supplies	BH4 - Equipment Costs	BH5 - Project Contract Requirements Costs	BH6 - Subcontracting Costs	BH7 - Indirect Costs
Management	68.382,91	0,00	91.080,00	0,00	0,00	15.200,00	0,00	10.257,44
Communication	64.521,20	0,00	34.520,00	0,00	0,00	0,00	56.700,00	9.678,17
Training and transfer of knowledge on surveillance at the regional level	217.008,00	0,00	30.925,00	121.050,00	0,00	0,00	23.000,00	32.551,20
Collaborative research for antiviral drug discovery	310.388,40	0,00	46.350,00	152.916,00	0,00	0,00	0,00	46.558,26

5.5 Partners versus Budget headings

	BH1 - Staff Costs	BH1a - Voluntary Work	BH2 - Travel Costs and Related Subsistence Allowances	BH3 - Consumables and Supplies	BH4 - Equipment Costs	BH5 - Project Contract Requirements Costs	BH6 - Subcontracting Costs	BH7 - Indirect Costs
Veterinary Research Institute	184.002,51	0,00	24.500,00	38.000,00	0,00	2.000,00	9.500,00	27.600,38
«Chumakov Federal Scientific Center for Research and Development of Immune-and-biological Products of Russian Academy of Sciences» (FSBSI "Chumakov FSC R&D IBP RAS")	100.000,00	0,00	54.025,00	45.000,00	0,00	1.600,00	11.800,00	15.000,00
Biomedical Research Center of the Slovak Academy of Sciences	116.160,00	0,00	29.250,00	63.066,00	0,00	3.000,00	13.600,00	17.424,00
Norwegian Institute of Public Health	0,00	0,00	56.100,00	37.550,00	0,00	3.600,00	14.800,00	0,00
Umeå University	95.530,00	0,00	26.000,00	42.350,00	0,00	2.000,00	10.000,00	14.329,50
International Centre for Genetic Engineering and Biotechnology - ICGEB	164.608,00	0,00	13.000,00	48.000,00	0,00	3.000,00	20.000,00	24.691,19

5.6 Work packages versus partners

	Veterinary Research Institute	«Chumakov Federal Scientific Center for Research and Development of Immune-and-biological Products of Russian Academy of Sciences» (FSBSI "Chumakov FSC R&D IBP RAS")	Biomedical Research Center of the Slovak Academy of Sciences	Norwegian Institute of Public Health	Umeå University	International Centre for Genetic Engineering and Biotechnology - ICGEB
Management	52.894,25	34.380,00	25.713,60	37.200,00	10.000,00	24.732,50
Communication	33.304,88	32.420,00	14.513,60	10.800,00	22.000,00	52.380,89
Training and transfer of knowledge on surveillance at the regional level	68.507,60	35.500,00	83.751,60	64.050,00	0,00	172.725,00
Collaborative research for antiviral drug discovery	130.896,16	125.125,00	118.521,20	0,00	158.209,50	23.460,80

5.7 Summary of project budget per work packages, partners and budget headings

Work package title	Total estimated eligible costs per work package	Percent of total eligible costs
Management	184.920,35	% 13,89
Communication	165.419,37	% 12,43
Training and transfer of knowledge on surveillance at the regional level	424.534,20	% 31,89
Collaborative research for antiviral drug discovery	556.212,66	% 41,79

Partner name	Total estimated eligible costs per partner	Percent of total eligible costs
Veterinary Research Institute	285.602,89	% 21,46
«Chumakov Federal Scientific Center for Research and Development of Immune-and-biological Products of Russian Academy of Sciences» (FSBSI "Chumakov FSC R&D IBP RAS")	227.425,00	% 17,09

Biomedical Research Center of the Slovak Academy of Sciences	242.500,00	% 18,22
Norwegian Institute of Public Health	112.050,00	% 8,42
Umeå University	190.209,50	% 14,29
International Centre for Genetic Engineering and Biotechnology - ICGEB	273.299,19	% 20,53

Budget heading	Total estimated eligible costs per budget heading	Percent of total eligible costs
BH1 - Staff Costs	660.300,51	% 49,61
BH1a - Voluntary Work	0,00	% 0,00
BH2 - Travel Costs and Related Subsistence Allowances	202.875,00	% 15,24
BH3 - Consumables and Supplies	273.966,00	%20,58
BH4 - Equipment Costs	0,00	% 0,00
BH5 - Project Contract Requirements Costs	15.200,00	% 1,14
BH6 - Subcontracting Costs	79.700,00	% 5,99
BH7 - Indirect Costs	99.045,07	% 7,44

5.8 Project costs in relation to outcomes

Please note that costs of the Management and Communication work packages is distributed (pro-rata) on all project outcomes.

Outcomes	Total estimated eligible costs (in EUR)	Percent of total eligible costs
Enhanced performance of research institutions	1.182.778,02	% 88,86
Enhanced cooperation and improved mutual knowledge and understanding between the donor and beneficiary states.	148.308,56	% 11,14

5.9 Work package cost per outcome

Please note that the costs of Management and Communication work packages is distributed pro-rata on all outcomes.

	Enhanced performance of research institutions	Enhanced cooperation and improved mutual knowledge and understanding between the donor and beneficiary states.
Management	164.316,68	20.603,67
Communication	146.988,48	18.430,89

Training and transfer of knowledge on surveillance at the regional level	315.260,20	109.274,00
Collaborative research for antiviral drug discovery	556.212,66	0,00

5.10 Budget forecast per implementation periods

Partner	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Total
	01 July 2020 - 31 December 2020	01 January 2021 - 30 June 2021	01 July 2021 - 31 December 2021	01 January 2022 - 30 June 2022	01 July 2022 - 31 December 2022	01 January 2023 - 30 June 2023	01 July 2023 - 31 December 2023	01 January 2024 - 31 January 2024	01 July 2020 - 31 January 2024
Veterinary Research Institute	12.693,00	36.500,00	38.080,00	38.080,00	37.741,87	38.080,00	38.080,00	46.348,02	285.602,89
«Chumakov Federal Scientific Center for Research and Development of Immune-and-biological Products of Russian Academy of Sciences» (FSBSI "Chumakov FSC R&D IBP RAS")	9.500,00	15.000,00	31.160,00	34.425,00	41.753,00	31.360,00	29.000,00	35.227,00	227.425,00
Biomedical Research Center of the Slovak Academy of Sciences	10.778,00	32.334,00	32.333,00	32.333,00	32.334,00	37.722,00	32.333,00	32.333,00	242.500,00
Norwegian Institute of Public Health	4.782,00	19.387,00	22.000,00	14.347,00	14.347,00	14.347,00	12.449,00	10.391,00	112.050,00
Umeå University	4.370,00	20.250,00	17.000,00	19.800,00	28.000,00	34.680,50	33.000,00	33.109,00	190.209,50

International Centre for Genetic Engineering and Biotechnology - ICGEB	18.219,00	36.440,00	36.440,00	36.440,00	36.440,00	36.440,00	36.440,00	36.440,19	273.299,19
Total	60.342,00	159.911,00	177.013,00	175.425,00	190.615,87	192.629,50	181.302,00	193.848,21	1.331.086,00

5.11 System of payments

Advance payment	No
Reimbursement of costs incurred	Yes

5.12 Revenue and state aid

Is there any revenue foreseen in the project?

No

Are there any state aid implications related to the project? Any support under the Fund shall comply with the state aid rules. In case any project activity having potential impact on state aid mark YES and provide additional clarification in annex.

No