

COST Action B28

Array Technologies for BSL3 and BSL4 Agents

Annual Report

Period: from (27/5/2005) to (12/2005)

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1. OVERVIEW: ACTION IDENTIFICATION DATA

Action Identification Data

COST Action (number) Title: *B28 array technologies for BSL3 and BSL4 pathogens*

TC Recommendation: *(day/month/year)*

First MC meeting: 27/5/2005

CSO Approval: 15/03/2005

Last MC meeting: 22/11/2005

Start date: 27/5/2005

Final Report: *(day/month/year)* (2)

Duration: 60

Evaluation Report: *(day/month/year)* (2)

Extension: *months*

TC Evaluation: *(day/month/year)*

End date: 27/5/2010

Number of signatories: 17

Signatories and date of signature: *(day/month/year)*

Austria 06/07/2005

Greece 19/08/2005

Poland

Belgium 01/06/2005

Hungary

Portugal

Bulgaria 20/05/2005

Iceland

Romania 4/11/2005

Serbia & Montenegro 27/05/2005

Croatia

Ireland

Israel

Slovakia 06/07/2005

Cyprus

Italy

Slovenia

Czech Rep. 30/06/2005

Latvia

Spain 27/05/2005

Denmark 26/05/2005

Lithuania

Sweden 06/09/2005

Estonia

Luxembourg 06/07/2005

Switzerland 06/07/2005

Finland

Malta

Turkey 05/01/2006

fYR of Macedonia

France 26/05/2005

Netherlands 01/06/2005

United Kingdom 21/06/2005

Germany 25/05/2005

Norway

Institutes of non-COST countries: *Canada*

Area: **Medicine and Health**

Action Web site: <http://www>. (under construction)

Chair: **Butaye Patrick**

<i>Title, name:</i> Dr. Butaye Patrick	<i>Tel.</i> +32 2 379 0415
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<i>Postal Address</i> Groeselenberg 99	<i>E-Mail</i> pabut@var.fgov.be
<i>P.O. code, City</i> 1180 Brussels	http://www.var.fgov.be
<i>Country</i> Belgium	

TC Rapporteur: *Title, name, country*

External Evaluator: *Title, name, affiliation, country*

External Evaluator: *Title, name, affiliation, country*

(1) Date of the first MC meeting.

(2) When the report is received by TC Secretariat

2. OBJECTIVES

The main objective of the Action is to increase knowledge on BSL3 and BSL4 agents in order to support the development of more accurate diagnostics, vaccines and therapeutics, and to better understand epidemiology of these highly pathogenic micro-organisms that potentially can be used as biological weapons.

In the United States, several research laboratories are dealing with fast identification and characterization of micro-organisms that can be used as biological weapons. They receive massive support from their government to develop tests that will aid politicians in decision-making in the event that the organisms, described in this project, would be misused. They are also heavily involved in development of further treatments and vaccines for these microorganisms. The outcome of all this research is, however, mainly covered by secrecy and is of little help to the European Community. This means that when something happens with these microorganisms, Europe would completely depend on the good will of the United States. Moreover, some live microorganisms are only available outside of the EU (smallpox). Therefore we will also collaborate with these institutes, to obtain the necessary information on these organisms, enabling the network to also have an output on these.

An investment into this subject of this magnitude would be very ineffective if the individual members of the EU had to do this individually. Moreover, not all technical and equipment possibilities are covered by the individual states, especially for the smaller member states and the newcomers into the EU, such an investment would be financially very difficult to cope with. However, in Europe, there are several laboratories capable of giving a major contribution into developing such research, though they are scattered over the different member states. These factors point to the need for a strategic collaboration of groups throughout Europe as proposed in this COST Action in order to cover the possibilities of studying these human pathogens.

Several culture collections and laboratory facilities are also scattered over Europe, so it is absolutely necessary to unite the different laboratories to ensure that all means for success are brought together. The existing research capacities of the different laboratories, active in the field of human, animal medicine and defence, who are dealing with the same microorganisms will be united in this COST Action. Also a firm connection with a group of technologists will be established. This together with additional help of people specialised in certain research items like genomics, proteomics, glycomics and antigenicity will make this COST Action unique in its capabilities. Moreover additional expertise of the several researchers in this COST Action in the field of antibiotic resistance, vaccine development and immunology will make this project unique in its kind and enabling the through study of these rare but highly pathogenic and emerging microorganisms.

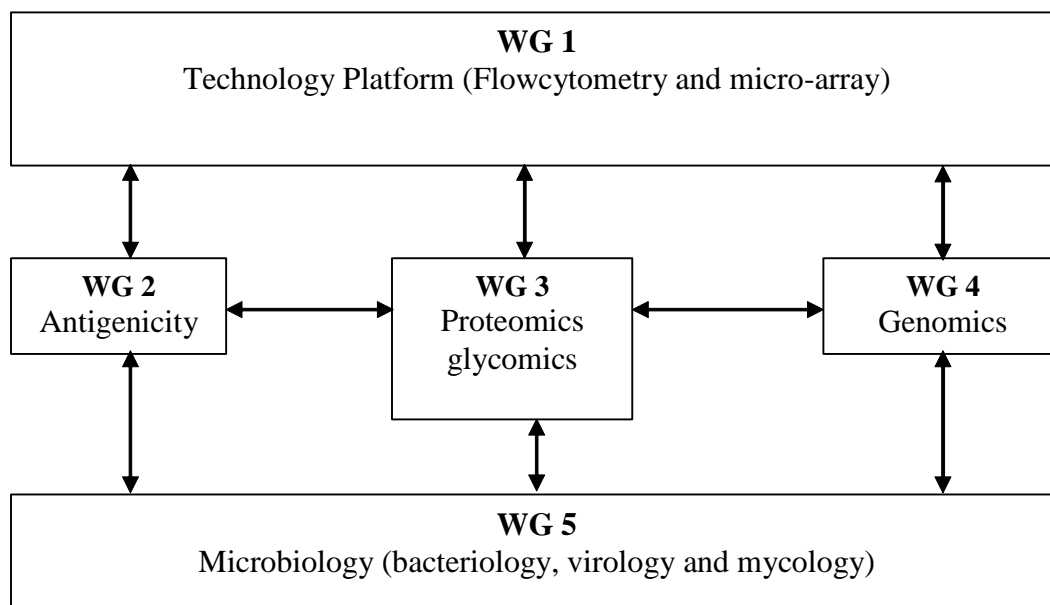
Several European-laboratories that have dealt with the “anthrax threat” that started in 2001 were not sufficiently prepared to handle the demand. Several laboratories also had different backgrounds, ranging from veterinary institutions through human medical institutions to defence institutions. Not all laboratories were able to perform fast and accurate detection/diagnosis of the agent. This COST Action is already supported by several of these laboratories and by networking them we would gather the experience of the past and offer them, in collaboration with other partners, several new means to enable fast diagnosis and intervention. Many of these laboratories also have other experiences than working on the biological weapons aspect. Experience concerning taxonomy, antibiotic resistance, vaccine development and virulence is also present, enlarging the possibilities behind the detection and diagnosis of these agents. Therefore the tools developed in COST Action will also allow their use in this diverse range of research applications. This Action will create an overall comprehensive and applicable knowledge base concerning these particular microorganisms. It

is also important that this network, once created can easily extend to other microorganisms specified; this is already present for some of the partners, who are dealing with several organisms important for public health.

3. TECHNICAL DESCRIPTION AND IMPLEMENTATION

Describe the items of technical work, the mode of operation, possible subdivision in Working Groups, and how the secretarial services were organised (no more than 2 pages).

The technical work has been subdivided as shown in figure 1. 5 work packages have been created in order to cover all items of importance for the study of BSL 3 and BSL 4 agents.



Working group chairs have been identified during the first WG and second MC meeting. They will be in charge of the coordination of the work within the Working groups.

A subcommittee of 3 persons on the selection of STSM has been established during the first WG and second MC meeting.

4. PARTICIPATION AND COORDINATION

4.1 Management Committee

Chair:

Patrick BUTAYE

Veterinary and Agrochemical Research Center

Dept of Bacteriology and Immunology

Groeselenberg 99

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Vice Chair:

Dr. Rudolf TOMAN

Laboratory for Diagnosis and Prevention
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Institute of Virology

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Slovakia

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E-mail: Virutoma@savba.sk

List: Members by country: only Title, name and affiliation

The actual MC list is not completed since some countries haven't assigned persons to the MC.

The provisional list is given below.

AUSTRIA

Hr. Dr. Levente Bodrossy

ARC Seibersdorf research GmbH, Abt. Biogenetics

BELGIUM

Jean-Luc GALA

Université catholique de Louvain

Laboratoire de Technologies Moléculaires Appliquées

Pierre-Alain FONTEYNE (Substitute)

Scientific Institute of Public Health

Mycology Section

Patrick BUTAYE

Veterinary and Agrochemical Research Center

Dept of Bacteriology and Immunology

BULGARIA

Mr. Todor Kantardjiev

National Center of Infections and Parasitic Diseases

Stefan Panaiotov, PhD

Bulgarian Association of Microbiologist

Department of Microbiology

CZECH REPUBLIC

Dr. Jaroslav URBAN
Transport Research Centre

Dr. Jiri STULIK
University of Defence
Faculty of Military Health Service

DENMARK

Niels HEEGAARD
Department for Auto Immunology
Statens Serum Institut 81/536

FRANCE

Dr. Patricia Renesto-Audiffren
Unité des Rickettsies – CNRS UMR 6020
Faculté de Médecine

Dr. Bruno GARIN-BASTUJI
Unité Zoonoses Bactériennes
Laboratoire d'Etudes et de Recherches en
Pathologie animale et Zoonoses (Lerpaz)
Agence Française de Sécurité Sanitaire des Aliments (AFSSA)

GERMANY

Prof. Dr. Frank Hufert
Institut für Virologie
Universitätsklinikum Göttingen

Dr. Manfred Weidmann (Replacement)
Universitätsklinikum
Unit for Microbiological Preparedness and
Emerging Infectious Diseases

Dr. Mandy Elschner
Bundesforschungsinstitut für Tiergesundheit
Institut für Bakterielle Infektionen und Zoonosen

GREECE

Dr. Maria SAKARELLOS
University of IOANNINA

LUXEMBOURG

Claude MULLER
Laboratoire National de Santé
Département d'Immunologie

NETHERLANDS

Dr. Ruud Busker
TNO Defence, Security and Safety
Business Unit Chemical & Biological Protection

Sybren DE HOOG
Centraal Bureau voor Schimmelcultures

ROMANIA

Dr. Iuliana Apostol
Dr. Victor Babes Foundation

Dr. Maria NICA
Hospital Dr. Victor Babes Bucharest

SERBIA AND MONTENEGRO

Dr. Veljko Veljkovic
Senior Scientist
Center for Multidisciplinary Research and Engineering
Institute of Nuclear Science VINCA

SLOVAKIA

Dr. Rudolf TOMAN
Laboratory for Diagnosis and Prevention
of Rickettsial and Chlamidial Infections
Institute of Virology
Slovak Academy of Sciences

SPAIN

Dr. Raquel ESCUDERO
Lab. Espiroquetas y Patógenos Especiales
Dept. Bacteriología
Instituto de Salud Carlos III

SWEDEN

Åke LUNDKVIST
Karolinska institutet
Mikrobiologiskt och tumörbiologiskt centrum

Anders SJÖSTEDT
Umeå Universitet
Universitetssjukhuset

SWITZERLAND

Mr. Prof. Jacques SCHRENZEL
Hôpitaux universitaires de Genève HUG
Laboratoire de Génomique Fonctionnelle
Division des Maladies infectieuses

Mr. Prof. Dr. Joachim FREY
University of Berne
Institute of Veterinary Bacteriology

UNITED KINGDOM

TURKEY

Dr. Erhan PISKIN
Department of Chemical Engineering
Faculty of Engineering
Hacettepe University

NON-COST COUNTRIES

CANADA

Dr. Michal MULVEY
Canadian Science Centre for Human and Animal Health
National Microbiology Laboratory

4.2 Participating Institutes

List: denomination and country without address

ARCS Seibersdorf	Austria
Veterinary and agrochemical research center	Belgium
Scientific institute for public health	Belgium
UCL	Belgium
National Center of Infections and Parasitic Diseases	Bulgaria
Bulgarian Association of Microbiologist	
Department of Microbiology	Bulgaria
Canadian Science Centre for Human and Animal Health	Canada
University of Defence	Czech Republic
Urban	Czech Republic
Statens Serum Institut	Denmark
INRA	France
AFSSA	France

Université de Marseille	France
Federal Institute for Risk Assessment (BFR)	Germany
Bundesforschungsinstitut für Tiergesundheit	Germany
Institut für Mikrobiologie der Bundeswehr	Germany
Universitätsklinikum Göttingen	Germany
Robert-Koch Institut	Germany
University of Ioannina	Greece
Laboratoire National de Santé	Luxemburg
Dr. Victor Babes Foundation	Romenia
Institute of Nuclear Science	Serbia and Montenegro
Slovak Academy of Sciences	Slovakia
Instituto de Salud Carlos III	Spain
Uppsala University	Sweden
Karolinska institutet	Sweden
Umea University	Sweden
University of Bern	Switzerland
University of Geneva	Switzerland
TNO	The Netherlands
Centraal Bureau voor Schimmelcultures	The Netherlands
RIVM	The Netherlands
Hacettepe University	Turkey
University of Wales, Aberystwyth	UK
HPA	UK

4.3 Meetings of the Management Committee

Brussels, Belgium, 27/05/2005:
Bratislava, Slovak Republic, 22/11/2005

4.4 Meetings of the Working Groups

Bratislava, Slovak Republic, 21-22/11/2005

4.5 Short-term scientific missions

A core group of 3 persons has been assigned to evaluate the proposed STSMs. Actually there hasn't been any submission for STSM, since the Action only started recently.

5. RESULTS

First MC meeting

The first meeting of B28 was a MC meeting organised in Brussels at the COST secretariat on 30/5/2005. Ten MC members were present. An equal number of MC members was excused.

At that time 12 countries assigned MC members and 5 signed the MoU.
Information on COST was distributed.
Patrick Butaye was elected as chair and Rudolf Toman as vice chair.

It was decided to have a first WG-MC meeting in Bratislava where the objectives and work programme will be better established and this at the WG level. A second aim of the meeting was to better get known with the activities of the participating institutions and universities in order to be able to establish collaborations.

Second MC Meeting

Election of an STSM panel:

The MC agreed on the following composition of the STSM Panel consisting of 3 people :

Rudolf Toman - vice chair of the action

Patricia Renesto-Audriffen

Maria Sarakellos

All the applications should be sent to Rudolf Toman as the leader of the panel who will treat the applications according to the COST regulations for STSMs

A B28 website will be constructed.

The following WG leaders were elected:

- A. WG 1
Jacques Schrenzel
- B. WG2
Claude Müller
- C. WG3
Jiri Stulik
- D. WG4
Stefan Panaiotov
- E. WG5
Mandy Elschner

The next WG-MC meeting was prepared and would be a combined WG-MC and International Conference meeting in Turkey. The conference subject would be innovative array technologies.

First WG meeting

The First WG meeting was held on 21 and 22 november of 2005 in Bratislava, Slovak Republic. 56 participants were inscribed.

The aim of this meeting was to let the partners present their laboratory activities in the field of the work programme as described in the annex of the MoU.

Two invited speakers were asked: One speaker from Turkey, a country with the intention to sign the MoU and one speaker from Russia. The latter would also be included in the COST Action, since one partner from a near neighbour country can attend one meeting a year. This partner would be extremely valuable, since it is the only partner with experience in all pox viridae, an experience lacking in the EU and highly relevant to the programme.

Twenty nine presentations were given dealing with the different aspects of the studies to be performed. Seven presentations were given in WG1, three in WG2, six in WG3, five in WG4 and seven in WG5. Of nearly each presentation an abstract is available.

First exchanges of contacts were laid and collaboration plans were established between several partners. Collaborations are establishing and will be reflected in the next annual report.

6. DISSEMINATION OF RESULTS

6.1 Publications and Reports

An abstract book of the first meeting will be available online on the Website.

6.2 Conferences and Workshops

An International Conference is scheduled for beginning of October in Turkey

6.3 Web site

The VAR, Brussels, Belgium will establish a website containing information on and inks to the participating institutions. CV of the participants will be added. Abstracts of the presentations will be available on the website. The MC has agreed on the financial support for the website for the VAR.

6.4 Scientific and Technical Co-operation

Firm contacts have been established between different partners and collaborative plans have been made.

A firm collaboration with the FP6 funded IP “moltools” has been established. This group is specifically working on high technological array systems. Actually their applications are foreseen for Eukaryotes. Collaboration for working on Prokaryotes has been scheduled.

There is a connection by several partners with the FP6 funded preparatory action “IMPACT”

6.5 Transfer of results

By means of the website, results will be disseminated. It was also agreed that each work package will produce a booklet reviewing the current state of the art of research activities and results within their field.

For the next meeting in Turkey, an international conference is planned. For this conference, industry will be invited for presentations and participation to the annexed exposition.

6.6 *Contacts in the ERA*

COST Action B28 will part in the planned common COST workshop on micro-arrays.

7. ECONOMIC DIMENSION

List funds received from the COST budget for each year and for the entire duration of the Action utilised for Secretariat, Publications, Workshops and Seminars, MC meetings, Short-Term scientific missions, other and total.

8. SELF EVALUATION (only in the last annual progress report)

Indicate, in no more than 1 page, what were, in the opinion of the MC, the main successes, the drawbacks (if any) and the key difficulties encountered (if any).