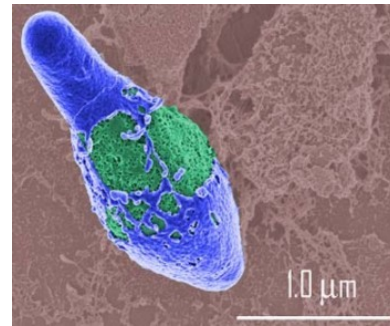


The University of Helsinki (UoH) participates to an International Consortium on Neutralizing antibodies against botulinum toxins A,B,E. Centre Recherche Service Santé Armée (CRSSA) leads this collaborative project under the EU's 7th Research Framework Programme in the security research area : SEC-2009-4.3-01 Neutralisation of CBRN effects following a terrorist event.

Project details

Project Acronym: ANTIBOTABE
Project Reference: 241832
Start Date: 2010-09-01
Duration: 48 months
End Date: 20014-09-01
Project Funding: 2 966 386 €



Clostridium Botulinum

Description

Botulinum neurotoxins (BoNTs), the most toxic substances known, are susceptible to be used as bioweapons (listed as class A agents by CDC). Currently licensed animal derived antibodies or F(ab)₂ preparations, are at a high risk of inducing adverse effects and their privately-owned stockpiles are limited. In this project, we will target the most lethal types of BoNTs: A (subtypes A1 and A2), B (B1 and B2) and E (E1) with recombinant antibodies. These antibodies will be directed against the C-terminus of the heavy chain and the light chain of each of these three BoNTs, as these domains contain neutralizing epitopes, according to the latest scientific data.

The six corresponding immunogens will be produced in recombinant form, and utilized to immunize macaques (*Macaca fascicularis*), from which phage-displayed immune libraries will be built and then screened. The six most neutralizing scFvs will then be super-humanized (germline-humanized) and expressed as IgGs, which will be tested in vivo, in a standardised model of protection and against toxins obtained from collections of clostridia strains. The project includes representatives of medical first-responders who will disseminate our results, and help create a market so that the necessary clinical studies could be performed in future. The project will offer an unequalled level of security against bio-threats in Europe, based upon a family of well-tolerated and effective molecules.

Participants :

Name	Short name	Country
Centre Recherche Service Santé Armée	CRSSA	France
Ministere de la défense	MLD	France
Technische Universität Braunschweig	TUBS	Germany
Institut Pasteur	PASTEUR	France
Health Protection Agency HPA	NIBSC	UK
Centre National de la Recherche Scientifique	CNRS	France
LFB Biotechnologies	LFB	France
University of Helsinki	UoH	Finland
VITAMIB	VITAMIB	France