Establishment of Quality Assurances for the Detection of Biological Toxins of Potential Bioterrorism Risk (EQuaTox)

Project summary

The features of biological toxins like ricin, botulinum toxins, staphylococcal enterotoxins and saxitoxin place them at the interface of classical biological and chemical agents. They could be used for terrorist attacks on the basis of their availability, ease of preparation, the high toxicity and/or the lack of medical countermeasures.

Some of the toxins are considered among the most relevant agents in the field of bioterrorism, for which the current preparedness within European countries should be further improved to limit casualties in the case of an intentional release.

While different technologies for toxin detection and analysis have been established, hardly any universally agreed "gold standards" are available. Generally, proficiency tests and certified reference materials for the mentioned toxins are lacking. In this context, the recent results of the first international proficiency test on the detection of one of the toxins provided highly relevant insights and a basis for further development.

EQuATox will address these issues by creating a network of expert laboratories among EU 27 and associated countries, focussing on the detection of biological toxins and integrating experts from the security, verification, health and food sector.

Four large EU-wide proficiency tests on the mentioned toxins will be organised with 27 laboratories from 20 countries worldwide so far being interested in participating and joining the network. The task will include the generation and characterization of toxin reference materials which in the future can be further developed into ISO-compliant certified reference materials.

Based on the status quo of toxin detection described in EQuATox, good practices and critical gaps in detection technology will be identified as foundation to harmonize and standardize detection capabilities. Furthermore, recommendations will be given on how to close these gaps and to minimize potential health and security risks for European citizens.

SEVENTH FRAMEWORK PROGRAMME

THEME [SEC-2011.5.4-1]

[Towards standardisation of CBRN detection and identification]