

## Highly Sensitive Detection and Decontaminating Technology for Biological Toxins

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*Ricinus communis* toxins are highly poisonous proteins once used illegally in the past. We have to be prepared with facile detection and decontaminating methods against various forms of bioterrorism which use toxins and pathogenic microbes in the form of the "white powders". In our preceding papers, we developed a QCM (quartz crystal microbalance) and an SPR (surface plasmon resonance) detection system applying synthetic carbohydrates as the toxin probes, which give us a facile and highly sensitive way to detect *E. coli* O157 Shiga toxins.<sup>1-3)</sup> We propose here a highly sensitive detection and effective decontaminating technology for biological toxins such as ricin in collaboration with the National Research Institute of Police Science (NRIPS). Our present approach may offer a highly effective method against bioterrorism. Further details will be discussed in the symposium.

- 1) H. Uzawa, *et al.*, *Biomacromolecules*, **3**, 411-414 (2002).
- 2) H. Uzawa, *et al.*, *Tetrahedron*, **61**, 5895-5905 (2005).
- 3) H. Uzawa, *et al.*, *ChemBioChem*, **8**, 2117-2124 (2007).