

## **Nanomaterials in the cholinesterase biosensors for inhibitor determination**

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### **Abstract**

Cholinesterase biosensors based on different nanomaterials have been considered and discussed in terms of sensitivity and selectivity of irreversible inhibitor detection. The function and influence of various types of nanoparticles, i.e., carbon nanotubes, metal and metal oxide nanoparticles and polymeric materials are described and the future progress in the development of cholinesterase sensors is discussed. The principal attention is focused on the approaches to the increase of the sensitivity of inhibitor determination and improvement of the biosensor operation. © 2012 Springer Science+Business Media B.V.

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### **Keywords**

Acetylcholinesterase, Biosensor, Carbon nanotubes, Cholinesterase, Enzyme sensor, Inhibitor determination, Nanomaterials, Nanoparticles, Polyelectrolytes