Review of: "Electrical nanosensors are used to detect and determine the amount of species in biological systems"

Erkan Ozturk

1 B.Tech Turk Biotechnologies

Potential competing interests: No potential competing interests to declare.

Note: The main part of an electrochemical or biological nanosensor is its sensor element. The sensing element is in contact with a detector. This element is responsible for identifying and linking with the desired species in a complex sample.

Then the detector converts the chemical signals produced as a result of the binding of the sensing element with the desired species into a measurable output signal. Biosensors rely on biological components such as antibodies. Enzymes, receptors or whole cells can be used as sensing elements.

Nanosensors are classified in different ways. One of these categories is based on the shape of nanoparticles and their application as follows:

A- Nanostructured materials: such as porous silicon, nanosensors made of these materials are used to identify chemical and biological reactions.

B- Nanoparticles: such as nanoscale spherical materials that are used as photo-biological, photo-chemical receptors and spatial image sensors. such as nanosilicon particles that are used as biosensors. Also, nanosensors can be divided into three categories based on their structure: quantum dots, carbon nanotubes, and nanotools.

Using these nano sensors (nano bio sensors) it is possible to identify very small amounts of chemical pollution or virus and bacteria in the agricultural and food system. Research in the field of nano-tools is one of the most up-to-date scientific researches in the world. With the introduction of science and nanotechnology and the possibility of making electrodes on a very small scale, it became possible to make nanometer sensors. These sensors were named nanobiosensors (biological nanosensors) due to their nanometer size and application in biological environments. Biosensors are very small electrodes with nanometer size and cellular dimensions that can detect chemical species through the stabilization of certain enzymes on their surface. or the desired biological have become sensitive in cells. These nanosensors are used to detect and determine the amount of species in biological systems. This technique is a very useful method in detecting the passage of some molecules through the cell wall or membrane.
Conclusion:

The main part of an electrochemical or biological nanosensor is its sensing element. The sensing element is in contact with a detector. This element is responsible for identifying and linking with the desired species in a complex sample.

References
