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Biosensors for monitoring heavy metals, pesticides and aflatoxins in milk

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Food contamination with environmental pollutants is one of the major problem globally and creating a great risk of health hazards. Milk as the major constituent of infant feed and everybody's meal pose a great risk of contamination. Heavy metals, pesticides and aflatoxins are some of the common contaminants found in milk from industrially active areas. A lot number of conventional analytical tools are available for their precise determination but they all suffer from numerous limitations. A remedy to such problems is the employment of biosensors that have advantage of selectivity, sensitivity and portability. Biosensor developments for such contaminants are either based on enzyme/whole cell inhibition phenomenon or interaction of pollutants with some proteins. Some DNA/aptamer based biosensors have also come into play in recent years. The advantage of surface plasmon resonance and microfluidics has lowered down the detection limits to picomolar levels. Biosensors are the future of detection systems globally and have been accepted very well by the society. The commercialization of glucometer is a success story and a number of such are in pipeline.

Biography

Hardeep Kaur has completed his PhD from Punjabi University, Patiala and she is currently pursuing Post doctorate from Central University of Punjab, India. Her area of research is biosensor technology and she has filed two patents on lead and cadmium biosensors for application in milk samples. She has published 8 papers in reputed journals and has been working towards better research foundation.

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