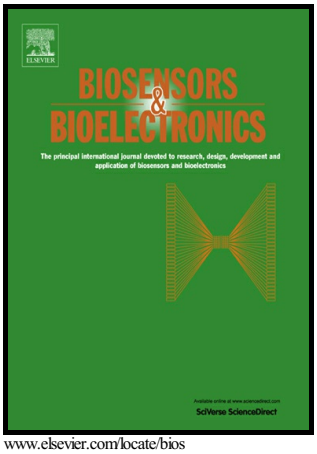

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Abstract

Superoxide dismutases (SODs), a family of ubiquitous enzymes, provide essential protection to biological systems against uncontrolled reactions with oxygen- and nitrogen- based radical species. We review first the role of SODs in oxidative stress and the other biological functions such as peroxidase, nitrite oxidase, thiol oxidase activities *etc.*, implicating its role in neurodegenerative, cardiovascular diseases, and ageing. Also, this review focuses on the development of electrochemical label-free immunosensor for SOD1 and the recent advances in biosensing assay methods based on their catalytic and biological functions with various