ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS

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DESCRIPTION

Archives of Biochemistry and Biophysics publishes quality original articles and reviews in the developing areas of biochemistry and biophysics. The focus of the journal is on studies that significantly advance mechanism. Scientifically valid reports of studies that do not advance the understanding of the underlying mechanism of the system under study are unlikely to be accepted.

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Superoxide and hydrogen peroxide: Selective generation and specific inhibition or deletion of redox active enzymes must be used to confirm the involvement of these species. These species cannot be measured in tissue homogenates or cryosections. Superoxide detection in vitro should be by the SOD-sensitive reduction of cytochrome c. In mitochondria, aconitase inactivation can be used in vivo. The use of luminol or lucigenin is discouraged. Hydroethidine or MitoSOX cannot be used
to detect superoxide by simple fluorescence measurements. Instead, specific identification of 2-hydroxyethidium products after separation from other products must be done. For hydrogen peroxide, the use of genetically encoded fluorescent probes that are sensitive and specific detectors is preferable. Boronate probes are also feasible. With both genetic and boronate probes, the possible involvement of peroxynitrite must be addressed.

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This journal follows the recommendations of the STRENDA (Standards for Reporting Enzymology Data) Commission of the Beilstein-Institut for the reporting of kinetic and equilibrium binding data. Detailed guidelines can be found at (http://www.strenda.org/documents.html) or in this pdf file. All reports of kinetic and binding data must include a description of the identity of the catalytic or binding entity (enzyme, protein, nucleic acid or other molecule). This information should include the origin or source of the molecule, its purity, composition, and other characteristics such as post-translational modifications, mutations, and any modifications made to facilitate expression or purification. The assay methods and exact experimental conditions of the assay must be fully described if it is a new assay or provided as a reference to previously published work, with or without modifications. The temperature, pH and pressure (if other than atmospheric) of the assay must always be included, even if previously published. In instances where catalytic activity or binding cannot be detected, an estimate of the limit of detection based on the sensitivity and error analysis of the assay should be provided. Ambiguous terms such as "not detectable" should be avoided. A description of the software used for data analysis should be included along with calculated errors for all parameters.

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