Mitochondrial ROS Determination

mitsjoecohen [1]

[1]Creative Biogene

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mitsjoecohen

Reactive oxygen species (ROS) is a by-product of biological aerobic metabolism, including oxygen ions, peroxides, and oxygen-containing free radicals. More and more studies have proved that ROS is a messenger molecule of multiple signal pathways, triggered or directly related to cancer, neurodegenerative diseases, fibrosis, cardiovascular and other diseases. Monitoring the level of ROS will help clarify the mechanism of mitochondrial disease and introduce new treatments.

Dichlorofluoresceindiacetate (DCFH-DA) is a ROS probe, which undergoes deacetylation in cells, followed by ROS-mediated oxidation to produce fluorescent substances (excitation wavelength λex=485nm, emission wavelength λem=530nm). DCFH-DA can be used to measure the production of ROS in cytoplasm and organelles (such as mitochondria). The fluorescence intensity can be measured quantitatively by a microplate spectrophotometer.

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https://www.mitochondriasci.com/determination-of-ros-in-mitochondrial.html

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