

OxiSelect Intracellular ROS Assay Kit

OxiSelect Intracellular ROS Assay Kit (Green Fluorescence)

CATALOG #
AAA44510

PRODUCT SYNONYMS

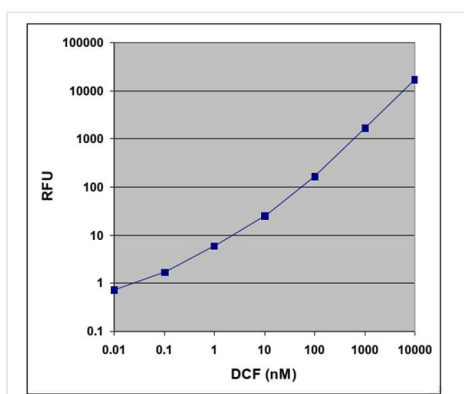
OxiSelect Intracellular ROS; OxiSelect Intracellular ROS Assay Kit (Green Fluorescence); OxiSelect Intracellular ROS assay kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Upon receipt, store the DCFH-DA and DCF Standard at -20 degree C. Avoid multiple freeze/thaw cycles. Store the Cell Lysis Buffer and Hydrogen Peroxide at 4 degree C.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for OxiSelect Intracellular ROS assay kit

Background: Accumulation of reactive oxygen species (ROS) coupled with an increase in oxidative stress has been implicated in the pathogenesis of several disease states. The role of oxidative stress in vascular diseases, diabetes, renal ischemia, atherosclerosis, pulmonary pathological states, inflammatory diseases, and cancer has been well established. Free radicals and other reactive species are constantly generated in vivo and cause oxidative damage to biomolecules, a process held in check by the existence of multiple antioxidant and repair systems as well as the replacement of damaged nucleic acids, proteins and lipids. Measuring the effect of antioxidant therapies and ROS activity intracellularly is crucial to suppressing or treating oxidative stress inducers. OxiSelect™ Intracellular ROS Assay Kit (Green Fluorescence) is a cell-based assay for measuring hydroxyl, peroxy, or other reactive oxygen species activity within a cell. The assay employs the cell-permeable fluorogenic probe 2', 7'-Dichlorodihydrofluorescein diacetate (DCFH-DA). In brief, DCFH-DA is diffused into cells and is deacetylated by cellular esterases to non-fluorescent 2', 7'-Dichlorodihydrofluorescein (DCFH), which is rapidly oxidized to highly fluorescent 2', 7'-Dichlorodihydrofluorescein (DCF) by ROS (Figure 1). The fluorescence intensity is proportional to the ROS levels within the cell cytosol. The effect of antioxidant or free radical compounds on DCFDA can be measured against the fluorescence of the provided DCF standard. The kit has a DCF detection sensitivity limit of 10 pM. Each kit provides sufficient reagents to perform up to 96 assays, including standard curve and unknown samples.

Principle of the Assay: The OxiSelect™ Intracellular ROS Assay Kit is a cell-based assay for measuring antioxidant or ROS activity. Cells are cultured in a 96-well cell culture plate and then pre-incubated with DCFH-DA, which is cell-permeable (Figure 1). The unknown antioxidant or ROS samples are then added to the cells. After a brief incubation, the cells can be read on a standard fluorescence plate reader. The ROS or antioxidant content in unknown samples is determined by comparison with the predetermined DCF standard curve.

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