

OxiSelect Cellular Antioxidant Assay Kit

OxiSelect Cellular Antioxidant Assay Kit (Green Fluorescence)

CATALOG #
AAA44516

PRODUCT SYNONYMS

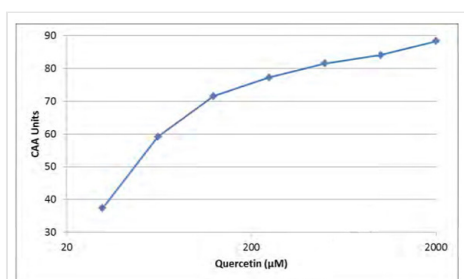
OxiSelect Cellular Antioxidant; OxiSelect Cellular Antioxidant Assay Kit (Green Fluorescence); OxiSelect Cellular Antioxidant assay kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Upon receipt, store the DCFH-DA Probe (1000X) and Quercetin at -20 degree C. Avoid multiple freeze/thaw cycles. Store the remaining components at 4 degree C.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for OxiSelect Cellular Antioxidant 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, phytochemical screening, and dietary monitoring of ROS activity within cells is crucial to suppressing or treating oxidative stress inducers. Although many antioxidant activity assays exist, most do not measure in vivo activity accurately because they do not account for physiological conditions such as pH, temperature, or antioxidant bioavailability. Cell Biolabs' OxiSelect™ Cellular Antioxidant Assay Kit (Green Fluorescence) is a cell-based assay for measuring antioxidant activity within a cell in a standard cell culture environment. This environment accounts for the temperature, pH, uptake, metabolism and efficacy of antioxidants in a whole cell. The assay employs the cell-permeable fluorogenic probe dye 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 by free radicals to highly fluorescent 2', 7'-Dichlorodihydrofluorescein (DCF) (Figure 1). The fluorescence intensity is proportional to the ROS levels within the cell cytosol. The effect of antioxidant compounds on DCF formation can be measured against the fluorescence inhibition of the Quercetin standard. Quercetin is a plant flavonoid widely found in fruits and vegetables. The kit has a Quercetin detection sensitivity limit of approximately 10 uM. Each kit provides sufficient reagents to perform up to 192 assays, including standard curve and unknown samples. Principle of the Assay: The OxiSelect™ Cellular Antioxidant Assay Kit is a cell-based assay for measuring antioxidant activity within adherent cells. Cells are first cultured in a 96-well black fluorescence cell culture plate until confluent. Then the cells are pre-incubated with a cell-permeable DCFH-DA fluorescence probe dye and the bioflavonoid Quercetin, or the antioxidant sample being tested. After a brief incubation, the cells are washed, and the reaction started by adding the Free Radical Initiator. The Free Radical Initiator creates free radicals that convert the probe to highly fluorescent DCF. The Quercetin inhibits the formation of free radicals, and thus DCF formation, in a concentration dependent manner. Fluorescence is measured over time in a standard microplate fluorometer. This fluorescence correlates to the Quercetin's ability to quench free radicals. Test antioxidant values can be compared to Quercetin to determine antioxidant activity within the cell.
Product Categories/Family for OxiSelect Cellular Antioxidant assay kit	Oxidative Stress/Damage; Antioxidant Assays; Cellular Antioxidant Assay

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/assay-kits/oxiselect-cellular-antioxidant/44516>