

OxiSelect In Vitro ROS/RNS Assay Kit

OxiSelect In Vitro ROS/RNS Assay Kit (Green Fluorescence)

CATALOG #

AAA11410

PRODUCT SYNONYMS

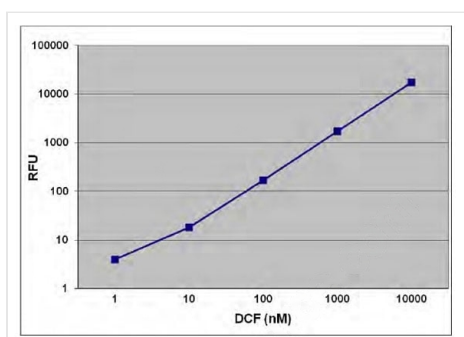
OxiSelect In Vitro ROS/RNS; OxiSelect In Vitro ROS/RNS Assay Kit (Green Fluorescence); OxiSelect In Vitro ROS/RNS assay kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Upon receipt, store the DCF-DiOxyQ and DCF Standard at -20 degree C. Avoid multiple freeze/thaw cycles. Store all other components at 4 degree C.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for OxiSelect In Vitro ROS/RNS assay kit	Background: Reactive oxygen species (ROS) and reactive nitrogen species (RNS) are well-established molecules responsible for the deleterious effects of oxidative stress. Accumulation of free radicals 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, cancer, as well as ageing 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/RNS activity is crucial to suppressing or treating oxidative stress inducers. The OxiSelect™ In Vitro ROS/RNS Assay Kit is an assay for measuring the total free radical presence of a sample. The assay employs a proprietary quenched fluorogenic probe, dichlorodihydrofluorescein DiOxyQ (DCFH-DiOxyQ), which is a specific ROS/RNS probe that is based on similar chemistry to the popular 2', 7'-dichlorodihydrofluorescein diacetates. The DCFH-DiOxyQ probe is first primed with a quench removal reagent, and subsequently stabilized in the highly reactive DCFH form. In this reactive state, ROS and RNS species can react with DCFH, which is rapidly oxidized to the highly fluorescent 2', 7'-dichlorodihydrofluorescein (DCF) (Figure 1). Fluorescence intensity is proportional to the total ROS/RNS levels within the sample. The DCFH-DiOxyQ probe can react with hydrogen peroxide (H2O2), peroxy radical (ROO?), nitric oxide (NO), and peroxynitrite anion (ONOO-). These free radical molecules are representative of both ROS and RNS, thus allowing for measurement of the total free radical population within a sample. OxiSelect™ In Vitro ROS/RNS Assay Kit can also be used to evaluate antioxidant's effect on free radicals. The kit has a detection sensitivity limit of 10 pM for DCF and 40 nM for H2O2 respectively. Each kit provides sufficient reagents to perform up to 96 assays, including standard curve and unknown samples. Principle of the Assay: The OxiSelect™ In Vitro ROS/RNS Assay Kit is an in vitro assay for measuring total ROS/RNS free radical activity. Unknown ROS or RNS samples or standards are added to the wells with a catalyst that helps accelerate the oxidative reaction. After a brief incubation, the prepared DCFH probe is added to all wells and the oxidation reaction is allowed to proceed (Figure 1). Samples are measured fluorometrically against a hydrogen peroxide or DCF standard. The assay is performed in a 96-well fluorescence plate format that can be read on a standard fluorescence plate reader. The free radical content in unknown samples is determined by comparison with the predetermined DCF or hydrogen peroxide standard curve.
Product Categories/Family for OxiSelect In Vitro ROS/RNS assay kit	Oxidative Stress/Damage; Reactive Oxygen Species (ROS) Assays; In Vitro ROS/RNS Assay

References

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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-in-vitro-ros-rns/11410>