

OxiSelect Hydrogen Peroxide / Peroxidase Assay Kit

OxiSelect Hydrogen Peroxide / Peroxidase Assay Kit (Fluorometric)

CATALOG #
AAA44579

PRODUCT SYNONYMS

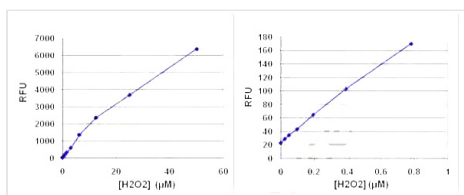
OxiSelect Hydrogen Peroxide / Peroxidase; OxiSelect Hydrogen Peroxide / Peroxidase Assay Kit (Fluorometric); OxiSelect Hydrogen Peroxide / Peroxidase assay kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Upon receipt, aliquot and store the ADHP probe and HRP at -20 degree C. Avoid multiple freeze/thaw cycles. Store the remaining kit components at 4 degree C. ADHP is light sensitive, must be stored accordingly.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for OxiSelect Hydrogen Peroxide / Peroxidase assay kit

Background: Oxidative stress is a physiological condition where there is an imbalance between concentrations of reactive oxygen species (ROS) and antioxidants. Research has shown that excessive ROS accumulation will lead to cellular injury, such as damage to DNA, proteins, and lipid membranes. Peroxides, such as hydrogen peroxide (H₂O₂), are some of the most well documented ROS produced under oxidative stress conditions. Hydrogen peroxide is an ROS that is a toxic product of normal aerobic metabolism and pathogenic ROS production involving oxidase and superoxide dismutase reactions. Hydrogen peroxide is poisonous to eukaryotic cells and in high doses can initiate oxidation of DNA, lipids, and proteins, which can lead to mutagenesis and cell death. The cellular damage caused by peroxides have been implicated in the development of many pathological conditions, such as ageing, asthma, arthritis, diabetes, cardiovascular disease, atherosclerosis, Down's Syndrome, and neurodegenerative diseases. The OxiSelect™ Hydrogen Peroxide/Peroxidase Assay Kit is a simple HTS-compatible assay for measuring hydrogen peroxide concentrations or peroxidase activities in biological samples without any need for pretreatment. In the presence of H₂O₂ and horseradish peroxidase (HRP), non-fluorescent ADHP (10-Acetyl-3, 7-dihydroxyphenoxazine) is oxidized to the highly fluorescent Resorufin. The probe has less background and greater stability. The ADHP-based H₂O₂ detection is at least one order of magnitude more sensitive than the commonly used Xylenol Orange (FOX) colorimetric assay for H₂O₂. The probe can be also used as an ultrasensitive assay for peroxidase activity when H₂O₂ is in excess. The kit has a detection sensitivity limit of 50 nM (H₂O₂) or 0.1 mU/mL (Peroxidase). Each kit provides sufficient reagents to perform up to 500 assays, including standard curve and unknown samples.

Principle of the Assay: The OxiSelect™ Hydrogen Peroxide/Peroxidase Assay Kit is a sensitive quantitative fluorometric assay for hydrogen peroxide or peroxidase. In the presence of HRP, ADHP reacts with H₂O₂ in a 1:1 stoichiometry to produce highly fluorescent Resorufin. The Resorufin product can be easily read by a fluorescence microplate reader with an excitation of 530-560 nm and an emission of 590 nm. Fluorescence values are proportional to the H₂O₂ or peroxidase levels within the samples. The H₂O₂ or peroxidase content in unknown samples is determined by comparison with its respective standard curve.

Product Categories/Family for OxiSelect Hydrogen Peroxide / Peroxidase assay kit	Oxidative Stress/Damage; Reactive Oxygen Species (ROS) Assays; Hydrogen Peroxide and Peroxidase Assays
References	1. Mohanty, J.G., et al. J. Immunol. Methods. (1997) 202: 133. 2. Tatyana, V., et al. Neurochem. (2001) 79: 266 3. Votyakova, V., Reynolds, I. Archives of Biochemistry and Biophysics. (2004) 431: 138-144. 4. Zhang, J., et al. Antioxid. Redox Signal. (2001) 3: 493-504. 1. Kim, E.Y. et al. (2012). Sustained Activation of N-Methyl-D-Aspartate Receptors in Podocytes Leads to Oxidative Stress, Mobilization of Transient Receptor Potential Canonical 6 Channels, Nuclear Factor of Activated T Cells Activation, and Apoptotic Cell Death. Mol. Pharmacol. 82: 728-737. 2. Kim, E.Y. et al.(2012).Insulin Increases Surface Expression of TRPC6 Channels in Podocytes: Role of NADPH Oxidases and Reactive Oxygen Species. Am J Physiol Renal Physiol. 302:F298-F307.

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.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
Online datasheet: <https://stage.aaabiotech.com/assay-kits/oxiselect-hydrogen-peroxide-peroxidase/44579>