

Product datasheet

Hydrogen Peroxide Assay Kit (Fluorometric - Near Infrared) ab138886

[1 Image](#)

Overview

Product name	Hydrogen Peroxide Assay Kit (Fluorometric - Near Infrared)
Detection method	Fluorescent
Sample type	Cell culture supernatant, Adherent cells
Assay type	Enzyme activity
Sensitivity	30 nM
Species reactivity	Reacts with: Mammals, Other species
Product overview	<p>Hydrogen Peroxide Assay Kit (Fluorometric - Near Infrared) (ab138886) uses our unique AbIR Peroxidase Indicator substrate to quantify hydrogen peroxide in solutions and cell extracts. AbIR Peroxidase Indicator generates the fluorescence that is pH-independent from pH 4 to 10. It is a superior alternative to ADHP for the detections that require low pH where ADHP has reduced fluorescence. In addition, AbIR Peroxidase Indicator generates a product that has maximum absorption at 647 nm with maximum emission at 670 nm. This near infrared fluorescence minimizes the assay background that is often caused by the autofluorescence of biological samples. It can also be used to detect a variety of oxidase activities through enzyme-coupled reactions.</p>

This is an optimized "mix and read" assay that is compatible with HTS liquid handling instruments. It provides a sensitive, one-step fluorometric assay to detect as little as 3 pmol H₂O₂ /100 µL assay volume (30 nM). The assay can be performed in a convenient 96-well or 384-well microtiter-plate format and easily adapted to automation without a separation step. Its signal can be easily read by either a fluorescence microplate reader at Ex/Em = ~640/680 nm or an absorbance microplate reader at ~650 nm. Due to its long emission wavelength, this kit has low interference from biological samples.

Notes

Hydrogen peroxide (H₂O₂) is a reactive oxygen metabolic by-product that serves as a key regulator for a number of oxidative stress-related states. It is involved in a number of biological events that have been linked to asthma, atherosclerosis, diabetic vasculopathy, osteoporosis, a number of neurodegenerative diseases and Down's syndrome. Perhaps the most intriguing aspect of H₂O₂ biology is the recent report that antibodies have the capacity to convert molecular oxygen into hydrogen peroxide to contribute to the normal recognition and destruction processes of the immune system. Measurement of this reactive species will help to determine how oxidative stress modulates a variety of intracellular pathways.

Platform

Microplate reader

Properties

Storage instructions

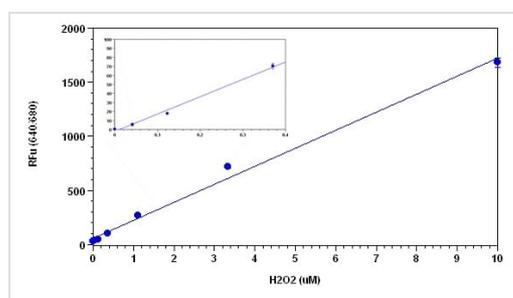
Store at -20°C. Please refer to protocols.

Components	500 tests
Assay Buffer	1 x 100ml
DMSO	1 x 0.5ml
Horseradish Peroxidase	1 x 20 units
Hydrogen Peroxide Solution	1 x 200µl
IR Peroxidase Indicator	1 vial

Relevance

Hydrogen Peroxide (H₂O₂) is a reactive oxygen metabolic byproduct that serves as a key regulator for a number of oxidative stress-related states. Functioning through NF-κB and other factors, hydroperoxide-mediated pathways have been linked to asthma, inflammatory arthritis, atherosclerosis, diabetic vasculopathy, osteoporosis, neuro-degenerative diseases, Down's syndrome and immune system diseases.

Images



Sample Standard Curve for Hydrogen Peroxidase

Hydrogen Peroxidase dose response was measured on a 96-well black plate with Hydrogen Peroxidase Assay Kit (Fluorometric-Near Infrared), using a fluorescence microplate reader (Molecular Devices). As low as 0.03 µM H₂O₂ can be detected with 1 minute incubation time (n=3). The insert shows the low levels of Hydrogen Peroxidase detection.

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