

Paraoxonase 1 (PON1) Activity Assay Kit (Fluorometric)

Cat. No. Kit-1109 Lot. No. (See product label)

SPECIFICATION

Product Overview

Description

Paraoxonase 1 (PON1, EC 3.1.8.1) is a 43 kDa enzyme synthesized in the liver and released into the bloodstream, where it associates with high-density lipoprotein (HDL) particles in serum. PON1 is a promiscuous enzyme with broad-spectrum hydrolase activity that was originally named for its ability to hydrolyze highly toxic organophosphorus compounds such as the insecticide paraoxon and various nerve agents used as chemical weapons. The enzyme has subsequently been demonstrated to catalyze hydrolysis of lipid hydroperoxides and lactones. PON1 helps protect serum HDL and LDL particles against lipid peroxidation and inhibits N-homocysteinylolation of LDL-associated proteins by hydrolyzing the highly reactive pro-oxidant homocysteine thiolactone. Accumulation of lipid peroxides and homocysteinylated proteins triggers arterial inflammation and eventually leads to atherosclerosis, ischemic stroke and myocardial infarction. PON1 activity is considered to be a clinical biomarker of hepatic and systemic oxidative stress. Measurement of serum PON1 activity has been proposed as a potential test for evaluation of liver function and risk of cardiovascular disease. Paraoxonase 1 Activity Assay Kit enables rapid measurement of PON1 activity, utilizing a fluorogenic substrate that is converted into a highly fluorescent product (Ex/Em = 368/460 nm). This ensures dramatically greater sensitivity than UV or colorimetric assays and eliminates the need for dangerous toxic substrates. A selective PON1 inhibitor is provided for verification of PON1 specific activity. The assay is simple to perform, high-throughput adaptable and can detect a minimum of 250 μ U paraoxonase activity with a sample volume of 5 μ l.

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Applications	Rapid assessment of native/recombinant Paraoxonase; Paraoxonase activity in mammalian serum and plasm
Storage	-20°C
Shipping	Gel Pack
Size	100 assays
Kit Components	Paraoxonase Assay Buffer; Fluorescence Standard; PON1 Inhibitor (2-hydroxyquinoline); PON1 Substrate; Paraoxonase Positive Control
Target Species	Eukaryotes
Detection method	Fluorescence (Ex/Em 368/460 nm)
Features & Benefits	Simple, convenient, highly sensitive Fluorescent assay enables easy determination of PON1 activity in a variety of biological samples; The substrate shows low background and a high signal-to-noise ratio; Kit includes Paraoxonase inhibitor, 2-hydroxyquinoline, and a stable, Paraoxonase as positive control

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