

## Product datasheet

# Paraoxonase 1 Activity Assay Kit ab241044

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### Overview

<b>Product name</b>	Paraoxonase 1 Activity Assay Kit
<b>Detection method</b>	Fluorescent
<b>Sample type</b>	Serum, Plasma
<b>Product overview</b>	Paraoxonase 1 Activity Assay Kit (ab241044) enables rapid measurement of Paraoxonase 1 (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 2.0 µU paraoxonase activity with a sample volume of 5 µL.
<b>Notes</b>	This product is manufactured by BioVision, an Abcam company and was previously called K999 Paraoxonase 1 (PON1) Activity Assay Kit (Fluorometric). K999-100 is the same size as the 100 test size of ab241044.
<b>Platform</b>	Microplate reader

### Properties

**Storage instructions** Store at -20°C. Please refer to protocols.

Components	100 tests
Fluorescence Standard III	1 vial
Paraoxonase Assay Buffer	1 x 50ml
Paraoxonase Positive Control	1 vial
PON1 Inhibitor	1 vial
PON1 Substrate	1 vial

**Function** Hydrolyzes the toxic metabolites of a variety of organophosphorus insecticides. Capable of hydrolyzing a broad spectrum of organophosphate substrates and lactones, and a number of aromatic carboxylic acid esters. Mediates an enzymatic protection of low density lipoproteins

against oxidative modification and the consequent series of events leading to atheroma formation.

### Tissue specificity

Plasma, associated with HDL (at protein level). Expressed in liver, but not in heart, brain, placenta, lung, skeletal muscle, kidney or pancreas.

### Involvement in disease

Genetic variation in PON1 is associated with susceptibility to microvascular complications of diabetes type 5 (MVCD5) [MIM:612633]. These are pathological conditions that develop in numerous tissues and organs as a consequence of diabetes mellitus. They include diabetic retinopathy, diabetic nephropathy leading to end-stage renal disease, and diabetic neuropathy. Diabetic retinopathy remains the major cause of new-onset blindness among diabetic adults. It is characterized by vascular permeability and increased tissue ischemia and angiogenesis. Note=Homozygosity for the Leu-54 allele is strongly associated with the development of retinal disease in diabetic patients.

### Sequence similarities

Belongs to the paraoxonase family.

### Post-translational modifications

Glycosylated.

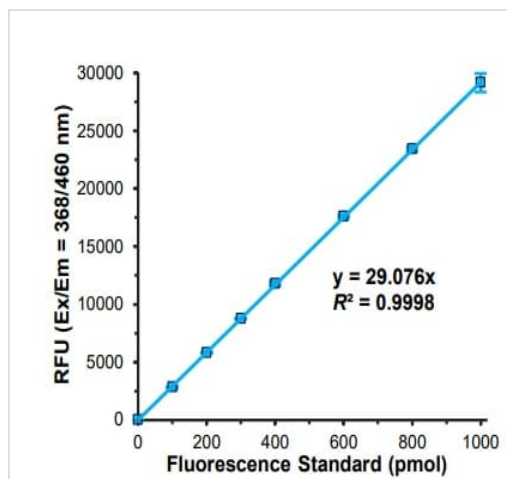
The signal sequence is not cleaved.

Present in two forms, form B contains a disulfide bond, form A does not.

### Cellular localization

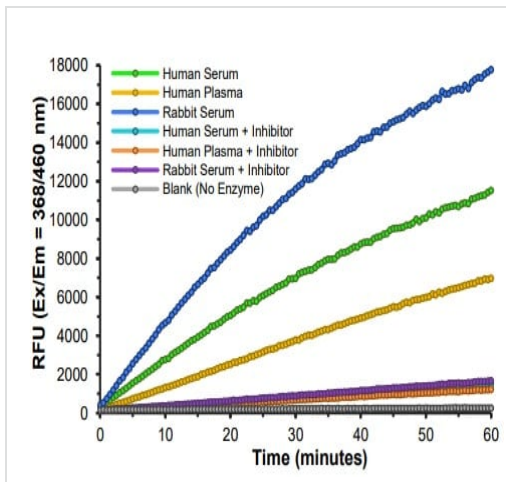
Secreted > extracellular space.

## Images



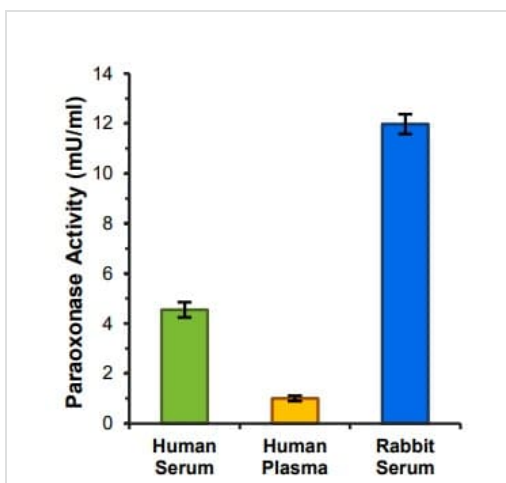
Standard curve of PON1 Substrate metabolite fluorescence. One mole of fluorescence standard corresponds to the metabolism of one mole of PON1 Substrate.

Standard curve of PON1.



Reaction kinetics of PON1 Substrate metabolism.

Reaction kinetics of PON1 Substrate metabolism in donor-pooled human serum (5  $\mu$ L), donor-pooled human plasma (5  $\mu$ L) and rabbit serum (2.5  $\mu$ L) in the presence and absence of 200  $\mu$ M of the selective PON1 inhibitor 2- hydroxyquinoline (no inhibitor conditions contained 0.4% DMSO as a solvent control).



Quantification of PON1 activity in serum/plasma samples.

Quantification of PON1 activity in serum/plasma samples (mean  $\pm$  SEM of four independent replicates). Assays were performed according to the kit protocol.

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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