

Product Data Sheet

Cat # RP-385

Recombinant Human Paraoxonase-1

Size: 10 ug

Paraoxonase 1 also called Esterase-A is involved in the detoxification of organophosphate insecticides such as parathion. Paraoxonase 1 may also confer protection against coronary artery disease by destroying proinflammatory oxidized lipids present in oxidized low-density lipoproteins (LDLs). PON was identified as an enzyme having organophosphates as its substrates. Reports of the geographic differences in population frequencies of paraoxonase activity and genetic analysis led to uncovering the genetic polymorphism. There are 3 known genotypic forms of paraoxonases. They are coded for by the PON set of genes – PON1, PON2 and PON3 – located on the long arm of chromosome 7. The differences between them lie in their location and activity.

PON1 is synthesized in the liver and transported along with HDL in the plasma. It functions as an antioxidant; it prevents the oxidation of LDL. Its serum concentration is influenced by inflammatory changes and the levels of serum oxidised-LDL.

PON2 is a ubiquitously expressed intracellular protein that can protect cells against oxidative damage.

PON3 is similar to PON1 in activity but differs from it in substrate specificity. Additionally, it is not regulated by inflammation and levels of oxidised lipids

Synonyms:

Serum paraoxonase, arylesterase 1, EC 3.1.1.2, EC 3.1.8.1, PON 1, Serum arylalkylphosphatase 1, A-esterase 1, Aromatic esterase 1, K-45, ESA, PON

Description:

Paraoxonase-1 Isoform Human Recombinant is expressed in *E. coli* as NT-His tag-PON-1 and purified (~43 kda, >95%).

Form and Storage

It is supplied as solution in PBS, pH 7.4 and 50% glycerol. It is stable at 4°C for 4 weeks, should be stored at or below -20°C.

Please prevent freeze-thaw cycles

Suggested Applications

ELISA and Western blot positive control.

References: Furlong CE (1993) *Chem. Biol. Interact* 87, 35-48; Mackness B (2003) *Curr. Opin. Biol.* 13, 357-362; Costa GL (2003) *J. Clin. Toxicol.* 41, 37-45; Furlong CE (2005) *Nerotoxiol.* 26, 651-659; Bergmeier C (2004) *Clin. Chem.* 50, 2309-2315; NG CJ (2001) *JBC* 276, 44444-49; Reddy ST (2001) *Arterioscle. Thromb. Vas. Biol.* 21, 542-7

This item is for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives.

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