

PON1 (17A12): sc-59646

BACKGROUND

Paroxon is an organophosphorus anticholinesterase compound, used topically in the treatment of glaucoma. It is produced *in vivo* in mammals by microsomal oxidation of the insecticide parathion. Parathion is inert until transformed to paroxon. Paroxonase (or PON) is an arylesterase that is capable of hydrolyzing paroxon to produce p-nitrophenol. PONs are nonspecific and their classification is based not only on substrate specificity but also on tissue distribution, inhibition properties and physicochemical characteristics such as electrophoretic mobility and molecular weight. In contrast to PON1, which is expressed mainly in the liver, PON2 is expressed in a variety of mouse tissues, including the pancreas. PON3 is associated with the high density lipoprotein fraction of serum. The genes which encode PON1-3 are physically linked and map to human chromosome 7q21.3.

REFERENCES

- Coates, P.M., et al. 1975. A preliminary genetic interpretation of the esterase isozymes of human tissues. *Ann. Hum. Genet.* 39: 1-20.
- Humbert, R., et al. 1993. The molecular basis of the human serum paraoxonase activity polymorphism. *Nat. Genet.* 3: 73-76.
- Primo-Parmo, S.L., et al. 1996. The human serum paraoxonase/arylesterase gene (PON1) is one member of a multigene family. *Genomics* 33: 498-507.
- Mochizuki, H., et al. 1998. Human PON2 gene at 7q21.3: cloning, multiple mRNA forms, and missense polymorphisms in the coding sequence. *Gene* 213: 149-157.
- Draganov, D.I., et al. 2000. Rabbit serum paraoxonase 3 (PON3) is a high density lipoprotein-associated lactonase and protects low density lipoprotein against oxidation. *J. Biol. Chem.* 275: 33435-33442.
- LocusLink Report (LocusID: 602447). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: PON1 (human) mapping to 7q21.3; Pon1 (mouse) mapping to 6 A1.

SOURCE

PON1 (17A12) is a mouse monoclonal antibody raised against His tagged recombinant PON1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 100 µl of HEPES with 0.15 M NaCl, 0.01% stabilizer protein, 0.03% sodium azide and 50% glycerol.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

PON1 (17A12) is recommended for detection of PON1 of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000) and immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for PON1 siRNA (h): sc-44031, PON1 siRNA (m): sc-44406, PON1 shRNA Plasmid (h): sc-44031-SH, PON1 shRNA Plasmid (m): sc-44406-SH, PON1 shRNA (h) Lentiviral Particles: sc-44031-V and PON1 shRNA (m) Lentiviral Particles: sc-44406-V.

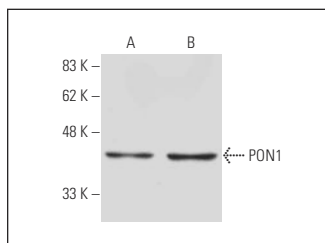
Molecular Weight of PON1: 43 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or Hep G2 whole cell lysate: sc-2227.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



PON1 (17A12): sc-59646. Western blot analysis of PON1 expression in HeLa (A) and Hep G2 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Riedmaier, S., et al. 2011. Paraoxonase (PON1 and PON3) polymorphisms: impact on liver expression and atorvastatin-lactone hydrolysis. *Front. Pharmacol.* 2: 41.
- Hafez, M.M., et al. 2014. Association between paraoxonases gene expression and oxidative stress in hepatotoxicity induced by CCl₄. *Oxid. Med. Cell. Longev.* 2014: 893212.

RESEARCH USE

For research use only, not for use in diagnostic procedures.