SANTA CRUZ BIOTECHNOLOGY, INC.

PON1-3 (H-300): sc-25791

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (paraoxonase 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 a 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

1. Coates, P.M., et al. 1975. A preliminary genetic interpretation of the esterase isozymes of human tissues. Ann. Hum. Genet. 39: 1-20.
2. Humbert, R., et al. 1993. The molecular basis of the human serum paraoxonase activity polymorphism. Nat. Genet. 3: 73-76.
3. 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.
4. 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.
5. 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.

CHROMOSOMAL LOCATION

Genetic locus: PON1/PON2/PON3 (human) mapping to 7q21.3; Pon1/Pon2/Pon3 (mouse) mapping to 6 A1.

SOURCE

PON1-3 (H-300) is a rabbit polyclonal antibody raised against amino acids 56-355 mapping at the C-terminus of PON1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 or our catalog for detailed protocols and support products.

APPLICATIONS

PON1-3 (H-300) is recommended for detection of PON1, 2, and to a lesser extent, PON3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PON1-3 (H-300) is also recommended for detection of PON1, 2, and to a lesser extent, PON3 in additional species, including equine, canine and porcine.

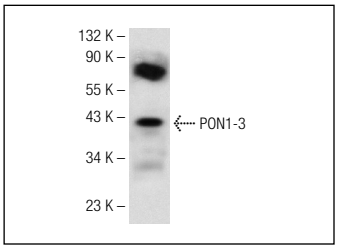
Molecular Weight of PON3: 40 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PON1-3 (H-300): sc-25791. Western blot analysis of PON1-3 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Cheng, X. and Klaassen, C.D. 2012. Hormonal and chemical regulation of paraoxonases in mice. J. Pharmacol. Exp. Ther. 342: 688-695.

RESEARCH USE

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