

PON1 (4G8D3): sc-517274

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

1. Coates, P.M., Mestriner, M.A. and Hopkinson, D.A. 1975. A preliminary genetic interpretation of the esterase isozymes of human tissues. *Ann. Hum. Genet.* 39: 1-20.
2. Primo-Parmo, S.L., Sorenson, R.C., Teiber, J. and La Du, B.N. 1996. The human serum paraoxonase/arylesterase gene (PON1) is one member of a multigene family. *Genomics* 33: 498-507.
3. Mochizuki, H., Scherer, S.W., Xi, T., Nickle, D.C., Majer, M., Huizenga, J.J., Tsui, L.C. and Prochazka, M. 1998. Human PON2 gene at 7q21.3: cloning, multiple mRNA forms, and missense polymorphisms in the coding sequence. *Gene* 213: 149-157.
4. Draganov, D.I., Stetson, P.L., Watson, C.E., Billecke, S.S. and La Du, B.N. 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.
5. Humbert, R., Adler, D.A., Disteche, C.M., Hassett, C., Omiecinski, C.J. and Furlong, C.E. 1993. The molecular basis of the human serum paraoxonase activity polymorphism. *Nat. Genet.* 3: 73-76.
6. LocusLink Report (LocusID: 168820). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: PON1 (human) mapping to 7q21.3.

SOURCE

PON1 (4G8D3) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 20-155 of PON1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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.

APPLICATIONS

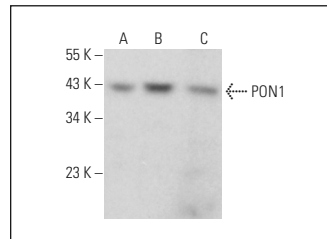
PON1 (4G8D3) is recommended for detection of PON1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

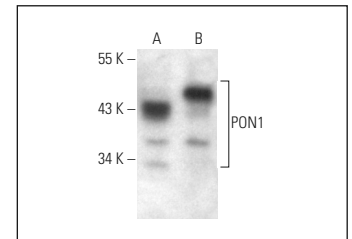
Molecular Weight of PON1: 43 kDa.

Positive Controls: human liver extract: sc-363766 or human thyroid extract: sc-363782.

DATA



PON1 (4G8D3): sc-517274. Western blot analysis of PON1 expression in c4 (A) and AMJ2-C8 (B) whole cell lysates and rat liver tissue extract (C).



PON1 (4G8D3): sc-517274. Western blot analysis of PON1 expression in human liver (A) and human thymus (B) tissue extracts.

RESEARCH USE

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

PROTOCOLS

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