SANTA CRUZ BIOTECHNOLOGY, INC.

PON2 (D-12): sc-373981

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 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.

CHROMOSOMAL LOCATION

Genetic locus: PON2 (human) mapping to 7q21.3; Pon2 (mouse) mapping to 6 A1.

SOURCE

PON2 (D-12) is a mouse monoclonal antibody raised against amino acids 61-113 mapping within an internal region of PON2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PON2 (D-12) is recommended for detection of PON2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PON2 siRNA (h): sc-62838, PON2 siRNA (m): sc-62839, PON2 shRNA Plasmid (h): sc-62838-SH, PON2 shRNA Plasmid (m): sc-62839-SH, PON2 shRNA (h) Lentiviral Particles: sc-62838-V and PON2 shRNA (m) Lentiviral Particles: sc-62839-V.

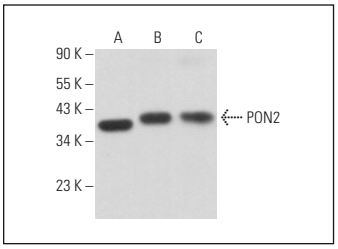
Molecular Weight of PON2: 40 kDa.

Positive Controls: A-10 cell lysate: sc-3806, rat brain extract: sc-2392 or Hep G2 cell lysate: sc-2227.

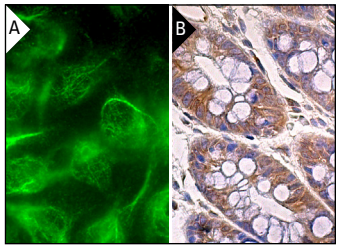
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PON2 (D-12): sc-373981. Western blot analysis of PON2 expression in Hep G2 (**A**) and A-10 (**B**) whole cell lysates and rat brain tissue extract (**C**).



PON2 (D-12): sc-373981. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Alwarfaly, S., et al. 2014. Paraoxonase 2 protein is spatially expressed in the human placenta and selectively reduced in labour. PLoS ONE 9: e96754.
2. Jasna, J.M., et al. 2014. Paraoxonase enzyme protects retinal pigment epithelium from chlorpyrifos insult. PLoS ONE 9: e101380.
3. Peng, X., et al. 2018. Oxyfadichalcone C inhibits melanoma A375 cell proliferation and metastasis via suppressing PI3K/Akt and MAPK/ERK pathways. Life Sci. 206: 35-44.
4. Pappa, K.I., et al. 2019. High resolution analysis of the intracellular proteome of cervical cancer cell lines unveils novel regulators of cervical carcinogenesis. Oncol. Rep. E-published.

STORAGE

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

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.