SANTA CRUZ BIOTECHNOLOGY, INC.

PON2 (C-5): sc-374158

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.

CHROMOSOMAL LOCATION

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

SOURCE

PON2 (C-5) 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_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PON2 (C-5) is available conjugated to agarose (sc-374158 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374158 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374158 PE), fluorescein (sc-374158 FITC), Alexa Fluor® 488 (sc-374158 AF488), Alexa Fluor® 546 (sc-374158 AF546), Alexa Fluor® 594 (sc-374158 AF594) or Alexa Fluor® 647 (sc-374158 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374158 AF680) or Alexa Fluor® 790 (sc-374158 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PON2 (C-5) 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.

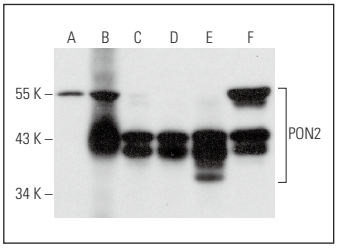
Molecular Weight of PON2: 40 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, PON2 (h2): 293T Lysate: sc-116231 or Hep G2 cell lysate: sc-2227.

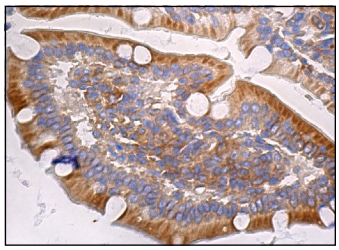
STORAGE

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

DATA



PON2 (C-5): sc-374158. Western blot analysis of PON2 expression in non-transfected 293T: sc-117752 (**A**), human PON2 transfected 293T: sc-116231 (**B**), HeLa (**C**), Hep G2 (**D**), A549 (**E**) and U-251-MG (**F**) whole cell lysates.



PON2 (C-5): sc-374158. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Rosenblat, M., et al. 2016. Nitro-oleic acid reduces J774A.1 macrophage oxidative status and triglyceride mass: involvement of paraoxonase2 and triglyceride metabolizing enzymes. Lipids 51: 941-953.
2. Nagarajan, A., et al. 2017. Paraoxonase 2 facilitates pancreatic cancer growth and metastasis by stimulating GLUT1-mediated glucose transport. Mol. Cell 67: 685-701.e6.
3. Li, W., et al. 2018. Paraoxonase 2 prevents the development of heart failure. Free Radic. Biol. Med. 121: 117-126.
4. Wu, S., et al. 2020. A novel micropeptide encoded by Y-linked LINC00278 links cigarette smoking and AR signaling in male esophageal squamous cell carcinoma. Cancer Res. 80: 2790-2803.
5. Carusone, T.M., et al. 2020. WTAP and BIRC3 are involved in the post-transcriptional mechanisms that impact on the expression and activity of the human lactonase PON2. Cell Death Dis. 11: 324.
6. Parween, F., et al. 2022. Chlorpyrifos and parathion regulate oxidative stress differentially through the expression of paraoxonase 2 in human neuroblastoma cell. Neurotoxicology 93: 60-70.

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.