

PCYOX1 (25): sc-136391

BACKGROUND

PCYOX1 (prenylcysteine oxidase 1), also known as prenylcysteine lyase or PCL1, is a 505 amino acid FAD-dependent thioether oxidase belonging to the prenylcysteine oxidase family. Ubiquitously expressed, PCYOX1 has been found to catalyze the degradation of prenylcysteine into free cysteines and a hydrophobic isoprenoid, and is released during the degradation of prenylated proteins. PCYOX1 specifically cleaves the thioether bond of prenyl-L-cysteines, such as farnesylcysteine and geranylgeranyl cysteine. PCYOX1 is glycosylated at multiple N-glycosylation sites and is encoded by a gene that maps to human chromosome 2p13.3. PCYOX1 has recently been implied to play a significant role in atherogenesis, and may function as a VLDL (very low-density lipoprotein)-associated protein.

REFERENCES

- Zhang, L., et al. 1997. Isolation and characterization of a prenylcysteine lyase from bovine brain. *J. Biol. Chem.* 272: 23354-23359.
- Nagase, T., et al. 1998. Prediction of the coding sequences of unidentified human genes. XII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 5: 355-364.
- Tschantz, W.R., et al. 1999. Cloning, expression, and cellular localization of a human prenylcysteine lyase. *J. Biol. Chem.* 274: 35802-35808.
- Tschantz, W.R., et al. 2001. Lysosomal prenylcysteine lyase is a FAD-dependent thioether oxidase. *J. Biol. Chem.* 276: 2321-2324.
- Digits, J.A., et al. 2002. Stereospecificity and kinetic mechanism of human prenylcysteine lyase, an unusual thioether oxidase. *J. Biol. Chem.* 277: 41086-41093.
- Mancone, C., et al. 2007. Proteomic analysis of human very low-density lipoprotein by two-dimensional gel electrophoresis and MALDI-TOF/TOF. *Proteomics* 7: 143-154.
- Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610995. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Banfi, C., et al. 2009. Proteomic analysis of human low-density lipoprotein reveals the presence of prenylcysteine lyase, a hydrogen peroxide-generating enzyme. *Proteomics* 9: 1344-1352.

CHROMOSOMAL LOCATION

Genetic locus: PCYOX1 (human) mapping to 2p13.3; Pcyox1 (mouse) mapping to 6 D1.

SOURCE

PCYOX1 (25) is a mouse monoclonal antibody raised against amino acids 356-478 of PCYOX1 of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PCYOX1 (25) is available conjugated to agarose (sc-136391 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-136391 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

PCYOX1 (25) is recommended for detection of PCYOX1 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for PCYOX1 siRNA (h): sc-76093, PCYOX1 siRNA (m): sc-76094, PCYOX1 shRNA Plasmid (h): sc-76093-SH, PCYOX1 shRNA Plasmid (m): sc-76094-SH, PCYOX1 shRNA (h) Lentiviral Particles: sc-76093-V and PCYOX1 shRNA (m) Lentiviral Particles: sc-76094-V.

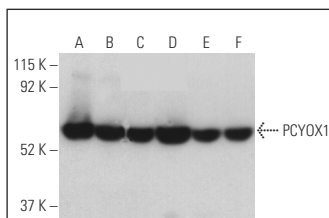
Molecular Weight of PCYOX1: 57 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, Hep G2 cell lysate: sc-2227 or Jurkat whole cell lysate: sc-2204.

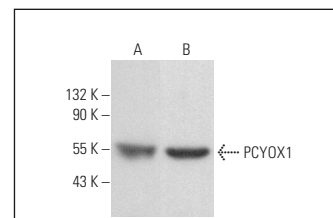
RECOMMENDED SUPPORT REAGENTS

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



PCYOX1 (25): sc-136391. Western blot analysis of PCYOX1 expression in Hep G2 (A), U-87 MG (B), BJ (C), U-251-MG (D), IMR-32 (E) and Jurkat (F) whole cell lysates. Detection reagent used: m-IgG₁ BP-HRP: sc-525408.



PCYOX1 (25): sc-136391. Western blot analysis of PCYOX1 expression in Hep G2 (A) and Caco-2 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Banfi, C., et al. 2021. Prenylcysteine oxidase 1, an emerging player in atherosclerosis. *Commun. Biol.* 4: 1109.

RESEARCH USE

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