

PIPOX (E-7): sc-376914

BACKGROUND

PIPOX (pipecolic acid oxidase), also known as LPIPOX or PSO, is a 390 amino acid protein that localizes to the peroxisome and belongs to the MSOX/MTOX family. Existing as a monomer, PIPOX uses FAD as a cofactor to catalyze the metabolism and subsequent degradation of sarcosine, L-pipecolic acid and L-proline. The gene encoding PIPOX maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, though specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

REFERENCES

1. Reuber, B.E., et al. 1997. Cloning and functional expression of a mammalian gene for a peroxisomal sarcosine oxidase. *J. Biol. Chem.* 272: 6766-6776.
2. Ijlst, L., et al. 2000. Molecular cloning and expression of human L-pipecolate oxidase. *Biochem. Biophys. Res. Commun.* 270: 1101-1105.
3. Dodt, G., et al. 2000. L-pipecolic acid oxidase, a human enzyme essential for the degradation of L-pipecolic acid, is most similar to the monomeric sarcosine oxidases. *Biochem. J.* 345: 487-494.
4. Dodt, G., et al. 2000. The human L-pipecolic acid oxidase is similar to bacterial monomeric sarcosine oxidases rather than D-amino acid oxidases. *Cell Biochem. Biophys.* 32: 313-316.
5. Chikayama, M., et al. 2000. Enzyme cytochemical localization of sarcosine oxidase activity in the liver and kidney of several mammals. *Histochem. Cell Biol.* 113: 489-495.

CHROMOSOMAL LOCATION

Genetic locus: PIPOX (human) mapping to 17q11.2; Pipox (mouse) mapping to 11 B5.

SOURCE

PIPOX (E-7) is a mouse monoclonal antibody raised against amino acids 176-345 mapping near the C-terminus of PIPOX of human origin.

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.

PIPOX (E-7) is available conjugated to agarose (sc-376914 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376914 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376914 PE), fluorescein (sc-376914 FITC), Alexa Fluor® 488 (sc-376914 AF488), Alexa Fluor® 546 (sc-376914 AF546), Alexa Fluor® 594 (sc-376914 AF594) or Alexa Fluor® 647 (sc-376914 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376914 AF680) or Alexa Fluor® 790 (sc-376914 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PIPOX (E-7) is recommended for detection of PIPOX 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PIPOX siRNA (h): sc-76144, PIPOX siRNA (m): sc-76145, PIPOX shRNA Plasmid (h): sc-76144-SH, PIPOX shRNA Plasmid (m): sc-76145-SH, PIPOX shRNA (h) Lentiviral Particles: sc-76144-V and PIPOX shRNA (m) Lentiviral Particles: sc-76145-V.

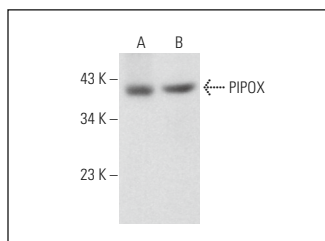
Molecular Weight of PIPOX: 44 kDa.

Positive Controls: PIPOX (m): 293T Lysate: sc-125826, rat liver extract: sc-2395 or mouse kidney extract: sc-2255.

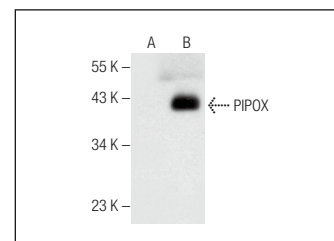
RECOMMENDED SUPPORT REAGENTS

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.

DATA



PIPOX (E-7): sc-376914. Western blot analysis of PIPOX expression in mouse kidney (A) and rat liver (B) tissue extracts.



PIPOX (E-7): sc-376914. Western blot analysis of PIPOX expression in non-transfected: sc-117752 (A) and mouse PIPOX transfected: sc-125826 (B) 293T whole cell lysates.

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.

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