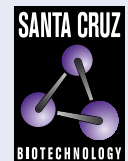


GLEPP1 (B-6): sc-365354



The Power to Question

BACKGROUND

Protein phosphatases play critical roles in the regulation of signal transduction pathways. The family can be separated into three general categories, which are distinguished on the basis of substrate specificity. The first and largest category, termed protein tyrosine phosphatases or PTPs, includes transmembrane proteins, membrane associated proteins and proteins that localize to nuclei. The second category of protein phosphatases dephosphorylate proteins on phosphoserine and phosphothreonine residues, whereas the third category of protein phosphatases exhibit dual specificities and can dephosphorylate proteins on phosphotyrosine and phosphoserine/phosphothreonine residues. Glomerular epithelial protein 1 (GLEPP1), also designated protein tyrosine phosphatase U2 (PTPase U2) or receptor-type tyrosine-protein phosphatase O (PTPRO), belongs to the protein-tyrosine phosphatase family. GLEPP1 is a type I membrane protein containing eight Fibronectin type-III domains and one tyrosine-protein phosphatase domain. GLEPP1 is expressed primarily in the glomeruli of the kidney, but is also detected in placenta, lung and brain.

REFERENCES

- Seimiya, H., et al. 1995. Cloning, expression and chromosomal localization of a novel gene for protein tyrosine phosphatase (PTP-U2) induced by various differentiation-inducing agents. *Oncogene* 10: 1731-1738.
- Wiggins, R.C., et al. 1995. Molecular cloning of cDNAs encoding human GLEPP1, a membrane protein tyrosine phosphatase: characterization of the GLEPP1 protein distribution in human kidney and assignment of the GLEPP1 gene to human chromosome 12p12-p13. *Genomics* 27: 174-181.
- Kim, Y.H., et al. 2002. GLEPP1 receptor tyrosine phosphatase (Ptpro) in rat PAN nephrosis. A marker of acute podocyte injury. *Nephron* 90: 471-476.

CHROMOSOMAL LOCATION

Genetic locus: PTPRO (human) mapping to 12p12.3; Ptpro (mouse) mapping to 6 G1.

SOURCE

GLEPP1 (B-6) is a mouse monoclonal antibody raised against amino acids 31-310 mapping within an N-terminal extracellular domain of GLEPP1 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.

GLEPP1 (B-6) is available conjugated to agarose (sc-365354 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365354 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365354 PE), fluorescein (sc-365354 FITC), Alexa Fluor® 488 (sc-365354 AF488), Alexa Fluor® 546 (sc-365354 AF546), Alexa Fluor® 594 (sc-365354 AF594) or Alexa Fluor® 647 (sc-365354 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365354 AF680) or Alexa Fluor® 790 (sc-365354 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

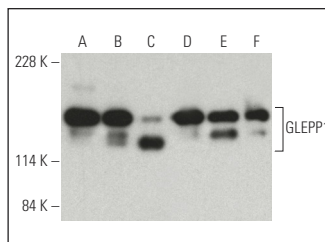
GLEPP1 (B-6) is recommended for detection of GLEPP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 GLEPP1 siRNA (h): sc-44890, GLEPP1 siRNA (m): sc-44891, GLEPP1 shRNA Plasmid (h): sc-44890-SH, GLEPP1 shRNA Plasmid (m): sc-44891-SH, GLEPP1 shRNA (h) Lentiviral Particles: sc-44890-V and GLEPP1 shRNA (m) Lentiviral Particles: sc-44891-V.

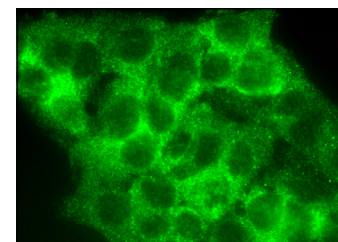
Molecular Weight of GLEPP1: 152 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HL-60 whole cell lysate: sc-2209 or Hep G2 cell lysate: sc-2227.

DATA



GLEPP1 (B-6) HRP: sc-365354 HRP. Direct western blot analysis of GLEPP1 expression in HeLa (A), MCF7 (B), HL-60 (C), C6 (D), Hep G2 (E) and J774.A1 (F) whole cell lysates.



GLEPP1 (B-6): sc-365354. Immunofluorescence staining of formalin-fixed Hep G2 cells showing membrane and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Ming, F. and Sun, Q. 2017. Epigenetically silenced PTPRO functions as a prognostic marker and tumor suppressor in human lung squamous cell carcinoma. *Mol. Med. Rep.* 16: 746-754.
- Radder, J.E., et al. 2017. Extreme trait whole-genome sequencing identifies PTPRO as a novel candidate gene in emphysema with severe airflow obstruction. *Am. J. Respir. Crit. Care Med.* 196: 159-171.
- Campos, R.K., et al. 2020. Ribosomal stalk proteins RPLP1 and RPLP2 promote biogenesis of flaviviral and cellular multi-pass transmembrane proteins. *Nucleic Acids Res.* 48: 9872-9885.
- Dong, H., et al. 2022. PTPRO-related CD8⁺ T-cell signatures predict prognosis and immunotherapy response in patients with breast cancer. *Front. Immunol.* 13: 947841.

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.