SANTA CRUZ BIOTECHNOLOGY, INC.

GLEPP1 (N-20): sc-33413

SANTA CRUZ BIOTECHNOLOGY

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 8 fibronectin type-III domains and 1 tyrosine-protein phosphatase domain. GLEPP1 is expressed primarily in the glomeruli of the kidney, but is also detected in placenta, lung and brain.

REFERENCES

1. 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.
2. Wiggins, RC. 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. Genomics 27: 174-181.
3. Kim, YH. et al. 2002. GLEPP1 receptor tyrosine phosphatase (Ptpro) in rat PAN nephrosis. A marker of acute podocyte injury. Nephron 90: 471-476.
4. Motiwala, T. et al. 2004. Protein tyrosine phosphatase receptor-type O (PTPRO) exhibits characteristics of a candidate tumor suppressor in human lung cancer. Proc. Natl. Acad. Sci. USA 101: 13844-13849.
5. Chen, B. et al. 2005. A novel substrate of receptor tyrosine phosphatase PTPRO is required for nerve growth factor-induced process outgrowth. J. Neurosci. 25: 880-888.
6. Stepanek, L. et al. 2005. Receptor tyrosine phosphatases guide vertebrate motor axons during development. J. Neurosci. 25: 3813-3823.

CHROMOSOMAL LOCATION

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

SOURCE

GLEPP1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of GLEPP1 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 IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-33413 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GLEPP1 (N-20) is recommended for detection of GLEPP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

GLEPP1 (N-20) is also recommended for detection of GLEPP1 in additional species, including equine, canine, bovine and avian.

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.