SANTA CRUZ BIOTECHNOLOGY, INC.

Podocan (N-14): sc-160676

BACKGROUND

Non-collagenous proteins of the small leucine-rich repeat (SLR) protein family are considered important components of the extracellular matrix. The extracellular matrix plays an integral role in the pivotal processes of development, tissue repair and metastasis by regulating cell proliferation, differentiation, adhesion and migration. Podocan, also known as PCAN, SLRR5A or PODN, is a 613 amino acid secreted protein belonging to the small leucine-rich proteoglycan (SLRP) family and the class V subfamily. Expressed in kidney, heart, liver, pancreas and vascular smooth muscle cells, Podocan exists as three alternatively spliced isoforms containing twenty LRR (leucine-rich repeats), a unique N-terminal cysteine-rich cluster pattern and a highly acidic C-terminal domain. Podocan is considered a glycoprotein containing N-linked oligosaccharides that may be involved in growth regulation in cardiovascular tissues. Encoded by a gene located on human chromosome 1, Podocan interacts type I collagen (COL1).

REFERENCES

1. Hocking, A.M., et al. 1998. Leucine-rich repeat glycoproteins of the extracellular matrix. Matrix Biol. 17: 1-19.
2. Ross, M.D., et al. 2003. Podocan, a novel small leucine-rich repeat protein expressed in the sclerotic glomerular lesion of experimental HIV-associated nephropathy. J. Biol. Chem. 278: 33248-33255.
3. Shimizu-Hirota, R., et al. 2004. Functional characterization of Podocan, a member of a new class in the small leucine-rich repeat protein family. FEBS Lett. 563: 69-74.
4. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608661. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Naito, Z. 2005. Role of the small leucine-rich proteoglycan (SLRP) family in pathological lesions and cancer cell growth. J. Nippon Med. Sch. 72: 137-145.
6. McEwan, P.A., et al. 2006. Structural correlations in the family of small leucine-rich repeat proteins and proteoglycans. J. Struct. Biol. 155: 294-305.
7. Nikitovic, D., et al. 2008. The role of SLRP-proteoglycans in osteosarcoma pathogenesis. Connect. Tissue Res. 49: 235-238.
8. Chen, R., et al. 2009. Glycoproteomics analysis of human liver tissue by combination of multiple enzyme digestion and hydrazide chemistry. J. Proteome Res. 8: 651-661.
9. Paderi, J.E., et al. 2009. Collagen-binding peptidoglycans: a biomimetic approach to modulate collagen fibrillogenesis for tissue engineering applications. Tissue Eng. Part A 15: 2991-2999.

CHROMOSOMAL LOCATION

Genetic locus: PODN (human) mapping to 1p32.3; Podn (mouse) mapping to 4 C7.

RESEARCH USE

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

SOURCE

Podocan (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Podocan of human origin.

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-160676 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Podocan (N-14) is recommended for detection of Podocan of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Podocan (N-14) is also recommended for detection of Podocan in additional species, including equine, canine and bovine.

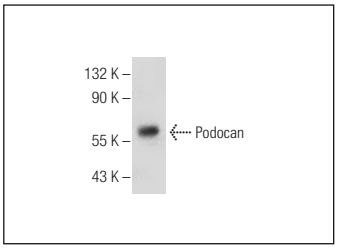
Suitable for use as control antibody for Podocan siRNA (h): sc-88314, Podocan siRNA (m): sc-152364, Podocan shRNA Plasmid (h): sc-88314-SH, Podocan shRNA Plasmid (m): sc-152364-SH, Podocan shRNA (h) Lentiviral Particles: sc-88314-V and Podocan shRNA (m) Lentiviral Particles: sc-152364-V.

Molecular Weight of (predicted) Podocan isoform 1/2/3/4: 69/72/74/58 kDa.

Molecular Weight of (observed) Podocan glycosylated: 110 kDa.

Positive Controls: Mouse thymus extract: sc-2406.

DATA



Podocan (N-14): sc-160676. Western blot analysis of Podocan expression in mouse thymus tissue extract.

STORAGE

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

PROTOCOLS

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