SANTA CRUZ BIOTECHNOLOGY, INC.

glypican-3 (H-162): sc-11395

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Glypican-3 (GPC3) is an integral membrane protein that is mutated in the Simpson-Golabi-Behmel syndrome (SGBS). SGBS is characterized by pre- and post-natal overgrowth and is a recessive X-linked condition. Glypican-3, also designated OCI-5 in rat, is a member of the glypican family of heparan sulfate proteoglycans, which attach to the cell membrane via a glycosyl-phosphatidyl-inositol (GPI) anchor. Expression of glypican-3 is detected in embryonic mesodermal lung, liver and kidney tissues. Glypican-3 is thought to regulate tissue and organ growth through interactions with growth factors such as Insulin-like growth factor II (IGF-II) or fibroblast growth factor 2 (FGF-2). Glypican-3 may be downregulated by various means, including promoter hypermethylation or the repression of specific transcription factors.

REFERENCES

1. Pilia, G., et al. 1996. Mutations in GPC3, a glypican gene, cause the Simpson-Golabi-Behmel overgrowth syndrome. Nat. Genet. 12: 241-247.
2. Song, H.H., et al. 1997. OCI-5/rat glypican-3 binds to fibroblast growth factor-2 but not to Insulin-like growth factor-2. J. Biol. Chem. 272: 7574-7577.
3. Li, M., et al. 1997. Expression of OCI-5/glypican 3 during intestinal morphogenesis: regulation by cell shape in intestinal epithelial cells. Exp. Cell Res. 235: 3-12.
4. Gonzalez, A.D., et al. 1998. OCI-5/GPC3, a glypican encoded by a gene that is mutated in the Simpson-Golabi-Behmel overgrowth syndrome, induces apoptosis in a cell line-specific manner. J. Cell Biol. 141: 1407-1414.
5. Cano-Gauci, D.F., et al. 1999. Glypican-3-deficient mice exhibit developmental overgrowth and some of the abnormalities typical of Simpson-Golabi-Behmel syndrome. J. Cell Biol. 146: 255-264.
6. Lin, H., et al. 1999. Frequent silencing of the GPC3 gene in ovarian cancer cell lines. Cancer Res. 59: 807-810.

CHROMOSOMAL LOCATION

Genetic locus: GPC3 (human) mapping to Xq26.2; Gpc3 (mouse) mapping to X A5.

SOURCE

glypican-3 (H-162) is a rabbit polyclonal antibody raised against amino acids 303-464 of glypican-3 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.

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.

APPLICATIONS

glypican-3 (H-162) is recommended for detection of glypican-3 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).

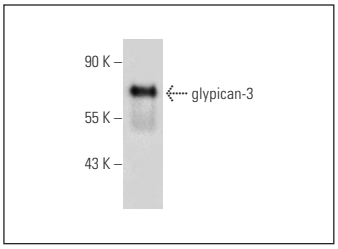
glypican-3 (H-162) is also recommended for detection of glypican-3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for glypican-3 siRNA (h): sc-40640, glypican-3 siRNA (m): sc-40641, glypican-3 shRNA Plasmid (h): sc-40640-SH, glypican-3 shRNA Plasmid (m): sc-40641-SH, glypican-3 shRNA (h) Lentiviral Particles: sc-40640-V and glypican-3 shRNA (m) Lentiviral Particles: sc-40641-V.

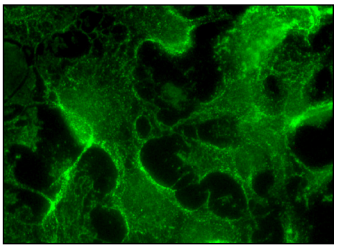
Molecular Weight of glypican-3: 67 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, Hep G2 cell lysate: sc-2227 or PC-12 cell lysate: sc-2250.

DATA



glypican-3 (H-162): sc-11395. Western blot analysis of glypican-3 expression in Hep G2 whole cell lysate.



glypican-3 (H-162): sc-11395. Immunofluorescence staining of methanol-fixed Hep G2 cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Gingis-Velitski, S., et al. 2004. Heparanase uptake is mediated by cell membrane heparan sulfate proteoglycans. J. Biol. Chem. 279: 44084-44092.
2. Nakatsura, T., et al. 2004. Identification of glypican-3 as a novel tumor marker for melanoma. Clin. Cancer Res. 10: 6612-6621.
3 Dwivedi, P.P., et al. 2013. Regulation of bone morphogenetic protein signalling and cranial osteogenesis by Gpc1 and Gpc3. Bone 55: 367-376.
4. Hattoum, A., et al. 2013. Expression of hepatocyte epidermal growth factor receptor, FAS and glypican-3 in EpCAM-positive regenerative clusters of hepatocytes, cholangiocytes, and progenitor cells in human liver failure. Hum. Pathol. 44: 743-749.