

glypican-3 (H-10): sc-377266

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-phosphatidylinositol (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.
7. Murthy, S.S., et al. 2000. Expression of GPC3, an X-linked recessive overgrowth gene, is silenced in malignant mesothelioma. *Oncogene* 19: 410-416.

CHROMOSOMAL LOCATION

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

SOURCE

glypican-3 (H-10) is a mouse monoclonal antibody raised against amino acids 303-464 of glypican-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain 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.

APPLICATIONS

glypican-3 (H-10) is recommended for detection of glypican-3 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).

glypican-3 (H-10) is also recommended for detection of glypican-3 in additional species, including equine.

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.

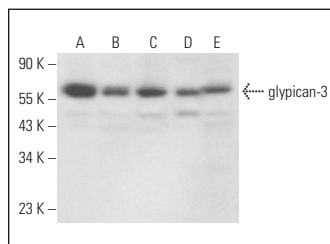
Molecular Weight of glypican-3: 67 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181, SW480 cell lysate: sc-2219 or COLO 320DM cell lysate: sc-2226.

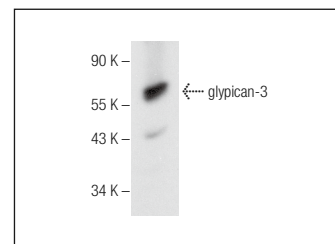
RECOMMENDED SUPPORT REAGENTS

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



glypican-3 (H-10): sc-377266. Western blot analysis of glypican-3 expression in SW480 (A), NTERA-2 cl.D1 (B), Caco-2 (C), F9 (D) and PC-12 (E) whole cell lysates.



glypican-3 (H-10): sc-377266. Western blot analysis of glypican-3 expression in COLO 320DM whole cell lysate.

RESEARCH USE

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



See **glypican-3 (F-3): sc-390587** for glypican-3 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.