SANTA CRUZ BIOTECHNOLOGY, INC.

glypican-3 (F-3): sc-390587

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 glycosylphosphatidyl-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.

CHROMOSOMAL LOCATION

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

SOURCE

glypican-3 (F-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 48-74 of glypican-3 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

glypican-3 (F-3) is available conjugated to agarose (sc-390587 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390587 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-390587 PE), fluorescein (sc-390587 FITC) or Alexa Fluor® 488 (sc-390587 AF488) or Alexa Fluor® 647 (sc-390587 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-390587 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

glypican-3 (F-3) 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 (F-3) 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.

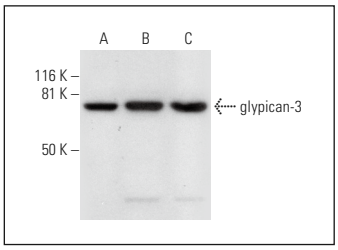
Molecular Weight of glypican-3: 67 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226, SW480 cell lysate: sc-2219 or HCT-116 whole cell lysate: sc-364175.

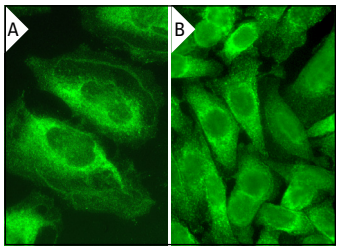
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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 (F-3): sc-390587. Western blot analysis of glypican-3 expression in COLO 320DM (**A**), SW480 (**B**) and HTC-116 (**C**) whole cell lysates.



glypican-3 (F-3): sc-390587. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoplasmic localization (**A**). glypican-3 (F-3) Alexa Fluor® 488: sc-390587 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing membrane and cytoplasmic localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**B**).

SELECT PRODUCT CITATIONS

1. Wang, S., et al. 2018. Elevated GPC3 level promotes cell proliferation in liver cancer. Oncol. Lett. 16: 970-976.
2. Kurahashi, T., et al. 2020. Forkhead Box M1 transcription factor drives liver inflammation linking to hepatocarcinogenesis in mice. Cell. Mol. Gastroenterol. Hepatol. 9: 425-446.
3. Zhang, X., et al. 2021. Arsenic trioxide induces differentiation of cancer stem cells in hepatocellular carcinoma through inhibition of LIF/JAK1/Stat3 and NFκB signaling pathways synergistically. Clin. Transl. Med. 11: e335.
4. Wang, L., et al. 2023. Bioinspired engineering of fusogen and targeting moiety equipped nanovesicles. Nat. Commun. 14: 3366.
5. Koksal, A.R., et al. 2023. A single-step immunocapture assay to quantify HCC exosomes using the highly sensitive fluorescence nanoparticle-tracking analysis. J. Hepatocell. Carcinoma 10: 1935-1954.

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.