

glypican-1 (4D1): sc-101827



The Power to Question

BACKGROUND

Glypican-1 (GPC1), a member of the glycosylphosphatidylinositol-anchored cell surface heparan sulfate proteoglycans, is involved with cell adhesion and migration, lipoprotein metabolism, modulation of growth factor activities and anticoagulation. Glypican-1 binds to and modulates the activity of several fibroblast growth factors (FGFs), including FGF-1, FGF-2 and FGF-7. Glypican-1 acts as an extracellular chaperone for VEGF165 to help restore receptor binding ability after oxidation. The heparan sulfate chains of glypican-1 mediate specific binding of glypican-1 to VEGF165. When present on the surface of marrow stromal cells, glypican-1 may aid in the maintenance and development of hematopoietic stem and progenitor cells. Human pancreatic cancer cells express a large amount of glypican-1 when compared to glypican-1 levels in normal pancreatic cells. Glypican-1 may play an important role in the response of pancreatic cancer cells to mitogenic stimuli, such as FGF-2. The gene encoding human glypican-1 maps to chromosome 2q37.3.

CHROMOSOMAL LOCATION

Genetic locus: GPC1 (human) mapping to 2q37.3; Gpc1 (mouse) mapping to 1 D.

SOURCE

glypican-1 (4D1) is a mouse monoclonal antibody raised against full length glypican-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

glypican-1 (4D1) is available conjugated to agarose (sc-101827 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-101827 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101827 PE), fluorescein (sc-101827 FITC), Alexa Fluor® 488 (sc-101827 AF488), Alexa Fluor® 546 (sc-101827 AF546), Alexa Fluor® 594 (sc-101827 AF594) or Alexa Fluor® 647 (sc-101827 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-101827 AF680) or Alexa Fluor® 790 (sc-101827 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

glypican-1 (4D1) is recommended for detection of glypican-1 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for glypican-1 siRNA (h): sc-40638, glypican-1 siRNA (m): sc-40639, glypican-1 shRNA Plasmid (h): sc-40638-SH, glypican-1 shRNA Plasmid (m): sc-40639-SH, glypican-1 shRNA (h) Lentiviral Particles: sc-40638-V and glypican-1 shRNA (m) Lentiviral Particles: sc-40639-V.

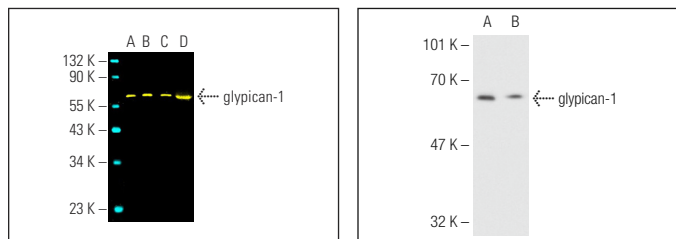
Molecular Weight of glypican-1: 64 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, U-2 OS cell lysate: sc-2295 or MIA PaCa-2 cell lysate: sc-2285.

STORAGE

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

DATA



glypican-1 (4D1) Alexa Fluor® 488: sc-101827 AF488. Direct fluorescent western blot analysis of glypican-1 expression in K-562 (A), MIA PaCa-2 (B) and U-2 OS (C) whole cell lysates and human skin tissue extract (D). Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 647: sc-516791.

glypican-1 (4D1): sc-101827. Western blot analysis of glypican-1 expression in K-562 (A) and MIA PaCa-2 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Vardaki, I., et al. 2016. Periostin is identified as a putative metastatic marker in breast cancer-derived exosomes. *Oncotarget* 7: 74966-74978.
- Li, J., et al. 2017. The clinical significance of circulating GPC1 positive exosomes and its regulative miRNAs in colon cancer patients. *Oncotarget* 8: 101189-101202.
- Huang, G., et al. 2017. α 3 chains of type V collagen regulate breast tumour growth via glypican-1. *Nat. Commun.* 8: 14351.
- Quach, N.D., et al. 2019. Paradoxical role of glypican-1 in prostate cancer cell and tumor growth. *Sci. Rep.* 9: 11478.
- Hinestrosa, J.P., et al. 2020. Simultaneous isolation of circulating nucleic acids and EV-associated protein biomarkers from unprocessed plasma using an AC electrokinetics-based platform. *Front. Bioeng. Biotechnol.* 8: 581157.
- Potje, S.R., et al. 2021. Heparin prevents *in vitro* glycocalyx shedding induced by plasma from COVID-19 patients. *Life Sci.* 276: 119376.
- Li, J., et al. 2023. Persistent ER stress causes GPI anchor deficit to convert a GPI-anchored prion protein into pro-PrP via the ATF6-miR449c-5p-PIGV axis. *J. Biol. Chem.* 299: 104982.

RESEARCH USE

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

PROTOCOLS

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