SANTA CRUZ BIOTECHNOLOGY, INC.

ASGPR1 (8D7): sc-52623

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The asialoglycoprotein receptor (ASGPR, also designated hepatic lectin) is a type II integral membrane protein and is expressed in hepatic cells. ASGPR is composed of two homologous subunits, ASGPR1 and ASGPR2, that form multimeric complexes. Both ASGPR1 and ASGPR2 contain four functional domains, which include a cytosolic domain, a transmembrane domain, a stalk domain and a carbohydrate recognition domain (CRD). The CRD allows ASGPR to bind glycoproteins with terminal galactose and N-acetylgalactosamine residues while in the presence of calcium. After binding, the ASGPR-glycoprotein complex is then internalized into the cell, where the receptor and ligand are dissociated and ASGPR returns to the cell membrane. ASGPR can also bind hepatitis B virus (HBV) and mediate the HBV infection of liver cells. The specific interaction with HBV makes ASGPR a potential target for therapeutic purposes.

CHROMOSOMAL LOCATION

Genetic locus: ASGR1 (human) mapping to 17p13.1; Asgr1 (mouse) mapping to 11 B3.

SOURCE

ASGPR1 (8D7) is a mouse monoclonal antibody raised against liver plasma membrane extracts of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ASGPR1 (8D7) is available conjugated to agarose (sc-52623 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-52623 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-52623 PE), fluorescein (sc-52623 FITC), Alexa Fluor® 488 (sc-52623 AF488), Alexa Fluor® 546 (sc-52623 AF546), Alexa Fluor® 594 (sc-52623 AF594) or Alexa Fluor® 647 (sc-52623 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-52623 AF680) or Alexa Fluor® 790 (sc-52623 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, ASGPR1 (8D7) is available conjugated to biotin (sc-52623 B), 200 µg/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

ASGPR1 (8D7) is recommended for detection of ASGPR1 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 flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for ASGPR1 siRNA (h): sc-29746, ASGPR1 siRNA (m): sc-29747, ASGPR1 shRNA Plasmid (h): sc-29746-SH, ASGPR1 shRNA Plasmid (m): sc-29747-SH, ASGPR1 shRNA (h) Lentiviral Particles: sc-29746-V and ASGPR1 shRNA (m) Lentiviral Particles: sc-29747-V.

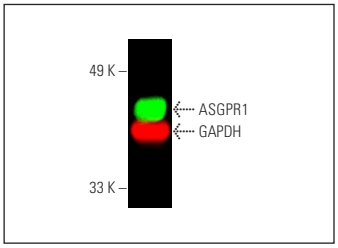
Molecular Weight of ASGPR1: 46 kDa.

Positive Controls: human liver extract: sc-363766 or Hep G2 cell lysate: sc-2227.

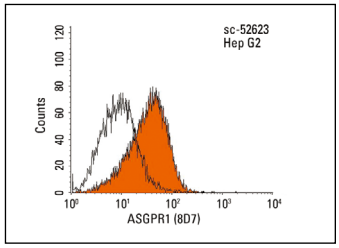
STORAGE

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

DATA



Simultaneous direct near-infrared western blot analysis of ASGPR1 expression, detected with ASGPR1 (8D7) Alexa Fluor® 680: sc-52623 AF680 and GAPDH expression, detected with GAPDH (G-9) Alexa Fluor® 790: sc-365062 AF790 in human liver tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214.



ASGPR1 (8D7): sc-52623. Indirect FCM analysis of Hep G2 cells stained with ASGPR1 (8D7), followed by PE-conjugated goat anti-mouse IgG: sc-3738. Black line histogram represents the isotype control, normal mouse IgG_1: sc-3877.

SELECT PRODUCT CITATIONS

1. Triyatni, M., et al. 2011. A new model to produce infectious hepatitis C virus without the replication requirement. PLoS Pathog. 7: e1001333.
2. Bavli, D., et al. 2016. One step antibody-mediated isolation and patterning of multiple cell types in microfluidic devices. Biomicrofluidics 10: 024112.
3. D'Avola, D., et al. 2018. High-density single cell mRNA sequencing to characterize circulating tumor cells in hepatocellular carcinoma. Sci. Rep. 8: 11570.
4. Gotoh, Y., et al. 2020. Comparative study between lactose-silk fibroin conjugates and extracellular matrices as a substrate for the culture of human induced pluripotent stem cell-derived hepatocytes. Biomed. Mater. Eng. 31: 35-45.
5. Hu, C.L., et al. 2021. 3D culture of circulating tumor cells for evaluating early recurrence and metastasis in patients with hepatocellular carcinoma. Onco Targets Ther. 14: 2673-2688.
6. Jeong, J., et al. 2022. Elimination of reprogramming transgenes facilitates the differentiation of induced pluripotent stem cells into hepatocyte-like cells and hepatic organoids. Biology 11: 493.
7. Boonkaew, B., et al. 2023. Circulating extracellular vesicle-derived microRNAs as novel diagnostic and prognostic biomarkers for non-viral-related hepatocellular carcinoma. Int. J. Mol. Sci. 24: 16043.
8. Okano, M., et al. 2024. Citrin-deficient patient-derived induced pluripotent stem cells as a pathological liver model for congenital urea cycle disorders. Mol. Genet. Metab. Rep. 40: 101096.

RESEARCH USE

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