SANTA CRUZ BIOTECHNOLOGY, INC.

Sulf-2 (G-4): sc-271772

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Sulf-2 (sulfatase 2), also known as HSULF-2, is an extracellular endosulfatase belonging to the sulfatase family. Members of the sulfatase family each contain a conserved active site with a posttranslationally generated α-formylglycine that is essential for their catalytic activity. These enzymes are responsible for the hydrolysis of sulfate ester bonds. Sulf-1 (sulfatase 1) and Sulf-2 specifically interact with heparin sulfate proteoglycans (HSPGs) and hydrolyze the glucosamine-6-sulfate modifications, thus regulating the interactions of HSPGs with a variety of signaling molecules. As key components of cell surfaces and extracellular matrices, HSPGs modulate growth factor activities and thereby influence cell growth and differentiation. Additionally, HSPGs play a critical role in regulating tumor cell metastasis by mediating cell adhesion and the activities of growth and angiogenic factors. This suggests an important role for Sulf-1 and Sulf-2 in tumor progression.

REFERENCES

1. Morimoto-Tomita, M., et al. 2002. Cloning and characterization of two extracellular heparin-degrading endosulfatases in mice and humans. J. Biol. Chem. 277: 49175-49185.
2. Saad, O.M., et al. 2005. Compositional profiling of heparin/heparan sulfate using mass spectrometry: assay for specificity of a novel extracellular human endosulfatase. Glycobiology 15: 818-826.
3. Dai, Y., et al. 2005. HSulf-1 and HSulf-2 are potent inhibitors of myeloma tumor growth *in vivo*. J. Biol. Chem. 280: 40066-40073.

CHROMOSOMAL LOCATION

Genetic locus: SULF2 (human) mapping to 20q13.12; Sulf2 (mouse) mapping to 2 H3.

SOURCE

Sulf-2 (G-4) is a mouse monoclonal antibody raised against amino acids 481-560 mapping within an extracellular domain of Sulf-2 of human 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.

Sulf-2 (G-4) is available conjugated to agarose (sc-271772 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271772 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271772 PE), fluorescein (sc-271772 FITC), Alexa Fluor® 488 (sc-271772 AF488), Alexa Fluor® 546 (sc-271772 AF546), Alexa Fluor® 594 (sc-271772 AF594) or Alexa Fluor® 647 (sc-271772 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271772 AF680) or Alexa Fluor® 790 (sc-271772 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

Sulf-2 (G-4) is recommended for detection of Sulf-2 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).

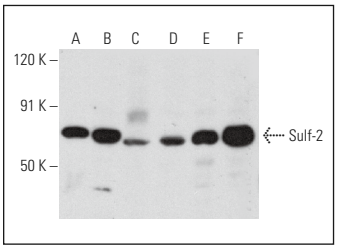
Suitable for use as control antibody for Sulf-2 siRNA (h): sc-63088, Sulf-2 siRNA (m): sc-63089, Sulf-2 siRNA (r): sc-270611, Sulf-2 shRNA Plasmid (h): sc-63088-SH, Sulf-2 shRNA Plasmid (m): sc-63089-SH, Sulf-2 shRNA Plasmid (r): sc-270611-SH, Sulf-2 shRNA (h) Lentiviral Particles: sc-63088-V, Sulf-2 shRNA (m) Lentiviral Particles: sc-63089-V and Sulf-2 shRNA (r) Lentiviral Particles: sc-270611-V.

Molecular Weight (predicted) of Sulf-2: 100 kDa.

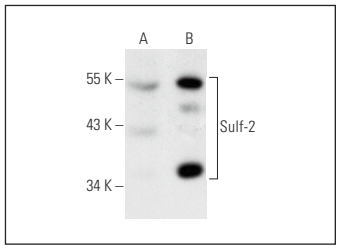
Molecular Weight (observed) of Sulf-2: 68 kDa.

Positive Controls: Sulf-2 (h2): 293T Lysate: sc-177997, MCF7 whole cell lysate: sc-2206 or Y79 cell lysate: sc-2240.

DATA



Sulf-2 (G-4): sc-271772. Western blot analysis of Sulf-2 expression in MCF7 (**A**), Y79 (**B**), c4 (**C**), NIH/3T3 (**D**), RPE-J (**E**) and RAT2 (**F**) whole cell lysates.



Sulf-2 (G-4): sc-271772. Western blot analysis of Sulf-2 expression in non-transfected: sc-117752 (**A**) and human Sulf-2 transfected: sc-177997 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Zizza, P., et al. 2019. TRF2 positively regulates Sulf-2 expression increasing VEGF-A release and activity in tumor microenvironment. Nucleic Acids Res. 47: 3365-3382.
2. Kim, H.Y. and Kim, H.S. 2021. Sulfatase 1 mediates IL-10-induced dimethylarginine dimethylaminohydrolase-1 expression and antiproliferative effects in vascular smooth muscle cells of spontaneously hypertensive rats. Cytokine 137: 155344.
3. Kim, H.S., et al. 2021. Hypertensive effects of transforming growth factor-β1 in vascular smooth muscles cells from spontaneously hypertensive rats are mediated by sulfatase 2. Cytokine 150: 155754.
4. Guo, X., et al. 2022. PM2.5 induces pulmonary microvascular injury in COPD via METTL16-mediated m^6A modification. Environ. Pollut. 303: 119115.

RESEARCH USE

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