

# Sulf-2 (M-79): sc-68435

## 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  $\alpha$ -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.
4. Morimoto-Tomita, M., et al. 2005. Sulf-2, a proangiogenic heparan sulfate endosulfatase, is upregulated in breast cancer. *Neoplasia* 7: 1001-1010.
5. Uchimura, K., et al. 2006. HSulf-2, an extracellular endoglucosamine-6-sulfatase, selectively mobilizes heparin-bound growth factors and chemokines: effects on VEGF, FGF-1 and SDF-1. *BMC Biochem.* 7: 2.
6. Uchimura, K., et al. 2006. Measuring the activities of the Sulfs: two novel heparin/heparan sulfate endosulfatases. *Meth. Enzymol.* 416: 243-253.
7. Sjöblom, T., et al. 2006. The consensus coding sequences of human breast and colorectal cancers. *Science* 314: 268-274.

## CHROMOSOMAL LOCATION

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

## SOURCE

Sulf-2 (M-79) is a rabbit polyclonal antibody raised against amino acids 552-630 mapping within an extracellular domain of Sulf-2 of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG 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

Sulf-2 (M-79) is recommended for detection of Sulf-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Sulf-2 (M-79) is also recommended for detection of Sulf-2 in additional species, including equine and canine.

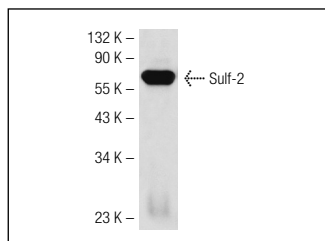
Suitable for use as control antibody for Sulf-2 siRNA (h): sc-63088, Sulf-2 siRNA (m): sc-63089, Sulf-2 shRNA Plasmid (h): sc-63088-SH, Sulf-2 shRNA Plasmid (m): sc-63089-SH, Sulf-2 shRNA (h) Lentiviral Particles: sc-63088-V and Sulf-2 shRNA (m) Lentiviral Particles: sc-63089-V.

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

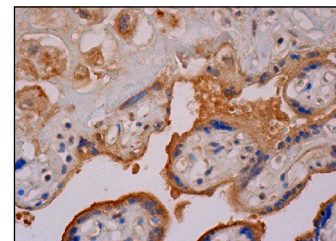
Molecular Weight (observed) of Sulf-2: 68 kDa.

Positive Controls: mouse liver extract: sc-2256 or Hep G2 cell lysate: sc-2227.

## DATA



Sulf-2 (M-79): sc-68435. Western blot analysis of Sulf-2 expression in mouse liver tissue extract.



Sulf-2 (M-79): sc-68435. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells and decidual cells.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **Sulf-2 (G-4): sc-271772**, our highly recommended monoclonal alternative to Sulf-2 (M-79).