

SUMF1 (H-131): sc-98663

BACKGROUND

Sulfatases are enzymes that remove sulfate residues from a variety of substrates via the hydrolysis of sulfate esters. In order to function properly, sulfatases require the presence of C α -formylglycine (FGly), a unique amino acid, in their active site. This amino acid is synthesized by enzymes that use a cysteine to posttranslationally generate FGly. SUMF1 (sulfatase modifying factor 1), also known as FGE, is a 374 amino acid alternatively spliced protein that localizes to the lumen of the endoplasmic reticulum and belongs to the sulfatase-modifying factor family. Expressed ubiquitously with highest expression in liver, kidney and pancreas, SUMF1 exists as either a monomer, a homodimer or a heterodimer (with SUMF2) and functions to oxidize sulfatase cysteine residues to an active FGly residue, thereby playing an important role in sulfatase activity. Defects in the gene encoding SUMF1 are the cause of multiple sulfatase deficiency (MSD), a heterogeneous disorder characterized by metachromatic leukodystrophy, mucopolysaccharidosis, chondrodysplasia punctata, hydrocephalus, ichthyosis, neurologic deterioration and developmental delay.

REFERENCES

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5. Annunziata, I., et al. 2007. Multiple sulfatase deficiency is due to hypomorphic mutations of the SUMF1 gene. *Hum. Mutat.* 28: 928.
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CHROMOSOMAL LOCATION

Genetic locus: SUMF1 (human) mapping to 3p26.1; Sumf1 (mouse) mapping to 6 E1.

RESEARCH USE

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

SOURCE

SUMF1 (H-131) is a rabbit polyclonal antibody raised against amino acids 225-355 mapping near the C-terminus of SUMF1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SUMF1 (H-131) is recommended for detection of SUMF1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

SUMF1 (H-131) is also recommended for detection of SUMF1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SUMF1 siRNA (h): sc-76610, SUMF1 siRNA (m): sc-76611, SUMF1 shRNA Plasmid (h): sc-76610-SH, SUMF1 shRNA Plasmid (m): sc-76611-SH, SUMF1 shRNA (h) Lentiviral Particles: sc-76610-V and SUMF1 shRNA (m) Lentiviral Particles: sc-76611-V.

Molecular Weight of SUMF1: 42 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

STORAGE

Store at 4 $^{\circ}$ C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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



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Try **SUMF1 (B-9): sc-376035** or **SUMF1 (A-4): sc-374102**, our highly recommended monoclonal alternatives to SUMF1 (H-131).