

SUMF2 (D-3): sc-393119



The Power to Question

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. SUMF2 (sulfatase-modifying factor 2), also known as pFGE or PSEC0171, is a 301 amino acid protein that belongs to the sulfatase-modifying factor family and is expressed in lung, heart, placenta, brain, liver, pancreas, skeletal muscle and kidney. Localized to the lumen of the endoplasmic reticulum (ER), SUMF2 acts as an FGly-generating enzyme that, when functioning alone, has low catalytic activity. When present in a heterodimer with SUMF1 (another FGly-generating protein), SUMF2 exhibits higher rates of catalysis. Four isoforms of SUMF2 are expressed due to alternative splicing events.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607940. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Landgrebe, J., et al. 2003. The human SUMF1 gene, required for post-translational sulfatase modification, defines a new gene family which is conserved from pro- to eukaryotes. *Gene* 316: 47-56.
3. Dierks, T., et al. 2003. Multiple sulfatase deficiency is caused by mutations in the gene encoding the human C α -formylglycine generating enzyme. *Cell* 113: 435-444.
4. Cosma, M.P., et al. 2003. The multiple sulfatase deficiency gene encodes an essential and limiting factor for the activity of sulfatases. *Cell* 113: 445-456.

CHROMOSOMAL LOCATION

Genetic locus: SUMF2 (human) mapping to 7p11.2.

SOURCE

SUMF2 (D-3) is a mouse monoclonal antibody raised against amino acids 1-110 mapping at the N-terminus of SUMF2 of human origin.

PRODUCT

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

SUMF2 (D-3) is available conjugated to agarose (sc-393119 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393119 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393119 PE), fluorescein (sc-393119 FITC), Alexa Fluor® 488 (sc-393119 AF488), Alexa Fluor® 546 (sc-393119 AF546), Alexa Fluor® 594 (sc-393119 AF594) or Alexa Fluor® 647 (sc-393119 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393119 AF680) or Alexa Fluor® 790 (sc-393119 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

SUMF2 (D-3) is recommended for detection of SUMF2 of human origin by Western Blotting (starting dilution 1:100, 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), 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).

Suitable for use as control antibody for SUMF2 siRNA (h): sc-89517, SUMF2 shRNA Plasmid (h): sc-89517-SH and SUMF2 shRNA (h) Lentiviral Particles: sc-89517-V.

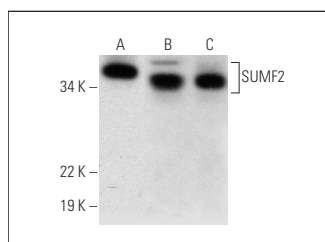
Molecular Weight of SUMF2: 32 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Hep G2 cell lysate: sc-2227 or human liver extract: sc-363766.

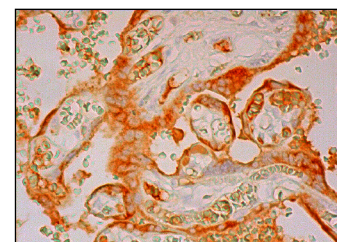
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



SUMF2 (D-3): sc-393119. Western blot analysis of SUMF2 expression in A-431 (A) and Hep G2 (B) whole cell lysates and human liver tissue extract (C).



SUMF2 (D-3): sc-393119. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells.

STORAGE

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

RESEARCH USE

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