

SIMP (K-14): sc-100148

BACKGROUND

SIMP (source of immunodominant MHC-associated peptides), also known as STT3B (STT3, subunit of the oligosaccharyltransferase complex, homolog B), is an 826 amino acid multi-pass membrane protein that localizes to the endoplasmic reticulum and belongs to the STT3 family. Expressed in liver, heart, placenta, kidney, brain, muscle and pancreatic tissue, SIMP exists as a component of the multi-protein oligosaccharyltransferase (OST) complex and functions to catalyze the N-glycosylation of target proteins. More specifically, SIMP mediates the transfer of high mannose oligosaccharides from lipid-linked oligosaccharide donors to target asparagine residues on polypeptide chains. The gene encoding SIMP maps to human chromosome 3, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci.

REFERENCES

1. McBride, K., et al. 2002. The model B6(dom1) minor histocompatibility antigen is encoded by a mouse homolog of the yeast STT3 gene. *Immunogenetics* 54: 562-569.
2. Kelleher, D.J., et al. 2003. Oligosaccharyltransferase isoforms that contain different catalytic STT3 subunits have distinct enzymatic properties. *Mol. Cell* 12: 101-111.
3. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608605. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Shibatani, T., et al. 2005. Proteomic analysis of mammalian oligosaccharyltransferase reveals multiple subcomplexes that contain Sec61, TRAP, and two potential new subunits. *Biochemistry* 44: 5982-5992.
5. Kelleher, D.J. and Gilmore, R. 2006. An evolving view of the eukaryotic oligosaccharyltransferase. *Glycobiology* 16: 47R-62R.
6. Ruiz-Canada, C., et al. 2009. Cotranslational and posttranslational N-glycosylation of polypeptides by distinct mammalian OST isoforms. *Cell* 136: 272-283.

CHROMOSOMAL LOCATION

Genetic locus: STT3B (human) mapping to 3p23; Stt3b (mouse) mapping to 9 F3.

SOURCE

SIMP (K-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of SIMP of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-100148 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

SIMP (K-14) is recommended for detection of SIMP 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SIMP (K-14) is also recommended for detection of SIMP in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for SIMP siRNA (h): sc-78489, SIMP siRNA (m): sc-153468, SIMP shRNA Plasmid (h): sc-78489-SH, SIMP shRNA Plasmid (m): sc-153468-SH, SIMP shRNA (h) Lentiviral Particles: sc-78489-V and SIMP shRNA (m) Lentiviral Particles: sc-153468-V.

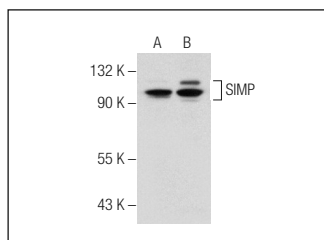
Molecular Weight of SIMP: 94 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209 or CCRF-CEM cell lysate: sc-2225.

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.

DATA



SIMP (K-14): sc-100148. Western blot analysis of SIMP expression in HL-60 (A) and CCRF-CEM (B) whole cell lysates.

STORAGE

Store at 4° 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.