

Cosmc (H-270): sc-68410

BACKGROUND

Cosmc, or C1GALT1-specific chaperone 1, is a 318 amino acid protein encoded by the human gene C1GALT1C1. Cosmc is believed to be a chaperone required for the generation of 1 O-glycan Gal- β 1-3GalNAc- α 1-Ser/Thr (Tn antigen), which is a precursor for many extended O-glycans in glycoproteins. Cosmc may also function as a specific molecular chaperone assisting the folding/stability of core 1 β -3-galactosyltransferase (C1GALT1). Cosmc is a single-pass type II membrane protein. Cosmc is ubiquitously expressed in all tissue types. It is most abundantly expressed in small intestine, stomach, salivary gland, kidney and testis, and at intermediate levels in whole brain, cerebellum, spinal cord, thymus, spleen, trachea, lung, pancreas, ovary and uterus. Defects in C1GALT1C1 are the cause of Tn syndrome, a rare autoimmune disease caused by somatic mutation in the C1GALT1C1 gene in which subpopulations of blood cells of all lineages carry an incompletely glycosylated Tn antigen, effecting red cells and platelets and leading to anemia, leukopenia and thrombocytopenia. Tn-polyagglutinability is sometimes associated with leukemia or is a preleukemic state.

REFERENCES

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- Kudo, T., Iwai, T., Kubota, T., Iwasaki, H., Takayama, Y., Hiruma, T., Inaba, N., Zhang, Y., Gotoh, M., Togayachi, A. and Narimatsu, H. 2002. Molecular cloning and characterization of a novel UDP-Gal:GalNAc(a) peptide β 1,3-galactosyltransferase (C1Gal-T2), an enzyme synthesizing a core 1 structure of O-glycan. *J. Biol. Chem.* 277: 47724-47731.
- Ju, T. and Cummings, R.D. 2002. A unique molecular chaperone Cosmc required for activity of the mammalian core 1 β 3-galactosyltransferase. *Proc. Natl. Acad. Sci. USA* 99: 16613-16618.

CHROMOSOMAL LOCATION

Genetic locus: C1GALT1C1 (human) mapping to Xq24; C1galt1c1 (mouse) mapping to X A3.3.

SOURCE

Cosmc (H-270) is a rabbit polyclonal antibody raised against amino acids 1-270 mapping at the N-terminus of Cosmc 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.

STORAGE

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

APPLICATIONS

Cosmc (H-270) is recommended for detection of Cosmc 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).

Cosmc (H-270) is also recommended for detection of Cosmc in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for Cosmc siRNA (h): sc-62148, Cosmc siRNA (m): sc-62149, Cosmc shRNA Plasmid (h): sc-62148-SH, Cosmc shRNA Plasmid (m): sc-62149-SH, Cosmc shRNA (h) Lentiviral Particles: sc-62148-V and Cosmc shRNA (m) Lentiviral Particles: sc-62149-V.

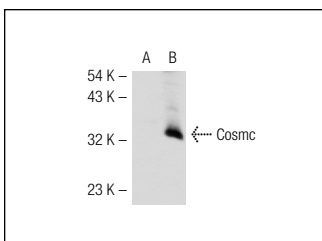
Molecular Weight of Cosmc: 36 kDa.

Positive Controls: Cosmc (h): 293T Lysate: sc-116086.

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



Cosmc (H-270): sc-68410. Western blot analysis of Cosmc expression in non-transfected: sc-117752 (A) and human Cosmc transfected: sc-116086 (B) 293T whole cell lysates.

RESEARCH USE

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

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Try **Cosmc (H-10): sc-271829**, our highly recommended monoclonal alternative to Cosmc (H-270).