

SPCS3 (G-7): sc-377334

BACKGROUND

SPCS3 (signal peptidase complex subunit 3), also known as SPC3, is a 180 amino acid single-pass type II membrane protein that localizes to both the microsome and the endoplasmic reticulum (ER) and belongs to the SPCS (signal peptidase complex subunit) family. Existing as a component of the microsomal signal peptidase complex which consists of five members, SPCS3 functions to remove signal peptides from proteins that are translated to the lumen of the ER. The gene encoding SPCS3 maps to human chromosome 4, which encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes. Defects in some of the genes located on chromosome 4 are associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

1. Wiemann, S., et al. 2001. Toward a catalog of human genes and proteins: sequencing and analysis of 500 novel complete protein coding human cDNAs. *Genome Res.* 11: 422-435.
2. Cowan, C.M., et al. 2006. Selective neuronal degeneration in Huntington's disease. *Curr. Top. Dev. Biol.* 75: 25-71.
3. Chandler, R.J., et al. 2007. Metabolic phenotype of methylmalonic acidemia in mice and humans: the role of skeletal muscle. *BMC Med. Genet.* 8: 64.
4. Cunningham, M.L., et al. 2007. Syndromic craniosynostosis: from history to hydrogen bonds. *Orthod. Craniofac. Res.* 10: 67-81.

CHROMOSOMAL LOCATION

Genetic locus: SPCS3 (human) mapping to 4q34.2; Spcs3 (mouse) mapping to 8 B1.3.

SOURCE

SPCS3 (G-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 41-75 within an internal region of SPCS3 of human origin.

PRODUCT

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

SPCS3 (G-7) is available conjugated to agarose (sc-377334 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377334 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377334 PE), fluorescein (sc-377334 FITC), Alexa Fluor® 488 (sc-377334 AF488), Alexa Fluor® 546 (sc-377334 AF546), Alexa Fluor® 594 (sc-377334 AF594) or Alexa Fluor® 647 (sc-377334 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377334 AF680) or Alexa Fluor® 790 (sc-377334 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377334 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

SPCS3 (G-7) is recommended for detection of SPCS3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

SPCS3 (G-7) is also recommended for detection of SPCS3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SPCS3 siRNA (h): sc-89051, SPCS3 siRNA (m): sc-153732, SPCS3 shRNA Plasmid (h): sc-89051-SH, SPCS3 shRNA Plasmid (m): sc-153732-SH, SPCS3 shRNA (h) Lentiviral Particles: sc-89051-V and SPCS3 shRNA (m) Lentiviral Particles: sc-153732-V.

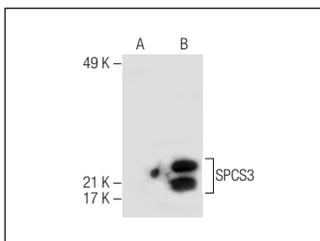
Molecular Weight of SPCS3: 20 kDa.

Positive Controls: SPCS3 (h): 293T Lysate: sc-116023.

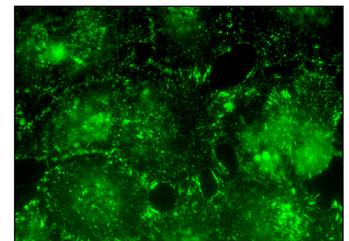
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SPCS3 (G-7): sc-377334. Western blot analysis of SPCS3 expression in non-transfected: sc-117752 (A) and human SPCS3 transfected: sc-116023 (B) 293T whole cell lysates.



SPCS3 (G-7): sc-377334. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

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.