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Antibodies to Solute carrier proteins

Sphingolipid transporter (SnpS2) antibodies. Catalog # SnpS2-101AP, P-SnpS2 and PC-SnpS2

Alternate nomenclature: Shingolipid transporter type 2 (SnpS2; MGC6652; spinster homolog 2; spinster 2; SPNS2

Sphingosine 1 phosphate is a lipid mediator involved in cell growth, death, migration and differentiation. Sphingosine-1-phosphate transporter 2 (SnpS2) is a human homolog of *Drosophila melanogaster* gene spinster homolog 2 (spin2) that belongs to a Major Facilitator Superfamily (MFS) of protein. The MFS is a large diverse group of secondary transporters that includes uniporters, symporters and antiporters. The MFS carrier proteins facilitates the transport across cytoplasmic or internal membranes of a variety of solutes in different organisms. In *Drosophila* the Spinster gene (spin) product is required for programmed cell death in the nervous and reproductive system. The human homolog of spin is SnpS2 gene. The SnpS2 interacts with Bcl2 and apoptosis regulator Bcl-X, but not pro-apoptotic members such as Bcl-2 associated X protein and Bcl2 homologous antagonist killer in cells treated with TNF- α (1). Over expression of SnpS2 resulted in the cell death without inducing release of cytochrome C from mitochondria. The effects of SnpS2 are inhibited by co expression of Bcl-xL.

Pyrrolidine dithiocarbamate, a necrosis inhibitor, but not the pancaspase inhibitors, carbobenzoxy-VAD-fluoromethyl ketone and p35, blocked the HSpin1-induced cell death in TNF treated cells suggesting a novel caspase independent apoptotic pathway leading to autophagy (1).

Sphingosine 1 phosphate (S1P) is a secreted lipid mediator that function in vascular development during embryogenesis and it is not fully understood how the S1P secretion is regulated during early period. A mutant of SnpS2 (S1P receptor 2) in zebra fish displayed cardia bifida. This defect was the result of migration of myocardial precursors in the zebra fish as a result of mutations in a MFS protein (SnpS2) with 10 trans-membrane domains characteristics of transport carriers. These mutants can be rescue by S1P injection (2). SnpS2 expression was observed in extraembryonic tissue yolk syncytial layer where it functions as a S1P transporter and is involved in S1P secretion during embryonic development (2).

SnpS2 is a 67kDa membrane bound protein with 10 TMD as commonly seen in all membrane transporter proteins. The SnpS2-selective antibodies were generated against conserved sequences from near C-terminal end of the protein that is unique to SnpS2 carrier but common in rat, mouse and human protein and also present in fruit fly. FabGennix Inc employs cyclic peptide methodology for generating antibodies, which results in higher titer and specificity. The SnpS2-selective antibodies are affinity purified against immobilized antigen based affinity chromatography which yielded epitope-specific antibodies. The SnpS2 antibodies label a 67-68kDa band of SnpS2 in Western blot using Western blot positive control for SnpS2 (PC-SnpS2). Anti-SnpS2-selective antibodies are ideal for western blot applications their application in other protocols are not yet standardized. *FabGennix Inc.* will conjugate SnpS2 and all other FabGennix antibodies with various fluorescent probes upon request at a nominal charge. Limited quantities of antigens/antigenic blocking peptide for SnpS2 antibodies is also available, please inquire before placing orders. For a complete listing of all *FabGennix Inc. antibodies*, please visit www.FabGennix.com.

Catalog #	Host Species	Nature	Cross reactivity	Quantity	vol
SnpS2-101AP	Rabbit	Affinity purified SnpS2 antibody	R, M, monk, fruit fly	100ug	200ul
P-SnpS2	n/a	Antigenic blocking peptide for snpS2-101AP	n/a	250ug	100ul
PC-SnpS2	n/a	Western blot positive control for SnpS2	n/a	5 appl	inquire

R = rat; M = mouse; H = human; C = chicken; monk = monkey; Sh = sheep; B = bovine ; * not all variants are labeled equally

Immunogen: Synthetic amidated peptide from human SnpS2 protein, the epitope location is extracytoplasmic between TMD9 and 10 (human, mouse: aa 482 to 499; monkey: 511-527 and *D. melanogaster*: aa 373-389). The peptide sequence (isd lr qst kds plw ef) was synthesized at 90% hplc purity, and covalently modified. The peptide was covalently modified to achieve the desired antigenicity and was conjugated to carrier proteins before injected in to rabbits to generate antibodies.

Concentration: SnpS2-101AP concentrations are in the range of 0.61-65 mg/ml of antibody stabilization buffer

Applications: SnpS2-101AP antibody was tested for WB application at 1:500 dilution. Other applications for this antibody is not yet determined. WB: > 1:500; IMM & i.p pull-down assays: n.d; IHC n.d (The dilutions for this antibody is for reference only, investigators are expected to determine the optimal conditions). Cross reactivity among various species was also not yet completely worked out.

Protocols: Standard protocol for various applications (WB, IMM, IHC) of this antibody can be obtained upon request. The specification sheet for SnpS2 antibody will be supplied with each product. *FabGennix Inc.*, strongly recommends investigators to optimize conditions for use of this antibody in their laboratories.

From/Storage: The antiserum is supplied in antibody stabilization buffer. Store at -20°C for long-term storage. *FabGennix Inc.* does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi use antibody dilution buffer (DiluOBuffer, Cat# FGI 1963). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45u filter after every use for long-term storage.

Notes: Now *FabGennix Int. Inc.*, antibody blots now can be stripped and recycle using our specially formulated StripOBuffer (Cat # FGI-1989). This stripping buffer does not require heating or have any pungent smell.

Briefly centrifuge to collect liquid before opening the vial, heat the PC-SnpS2 tube in 90oC water bath for 1-2 minutes to dissolve any precipitate before use. This product is "ready-to-use" for electrophoresis. After thawing store at room temperature, Repeated freezing and thawing may result in appearance of higher molecular weight immunoreactive bands.

References:

1. Yanagisawa H, Miyashita T, Nakano Y, Yamamoto D. HSpin1, a transmembrane protein interacting with Bcl-2/Bcl-xL, induces a caspase-independent autophagic cell death. *Cell Death Differ.* 2003 Jul;10(7):798-807
2. Kawahara A, Nishi T, Hisano Y, Fukui H, Yamaguchi A, Mochizuki N. The sphingolipid transporter spns2 functions in migration of zebrafish myocardial precursors. *Science.* 2009 Jan 23;323(5913):524-7. Epub 2008 Dec 11.

*For users who may require large amounts of SnpS2-101AP, please enquire about bulk material discounts.
This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

020409-20SF1001Z-rev10.00

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