

SMIT Polyclonal Antibody
Catalog # AP72527**Specification**

SMIT Polyclonal Antibody - Product Information

Application	WB
Primary Accession	P53794
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal

SMIT Polyclonal Antibody - Additional Information**Gene ID** 6526**Other Names**SLC5A3; Sodium/myo-inositol cotransporter; Na(+)/myo-inositol cotransporter;
Sodium/myo-inositol transporter 1; SMIT1; Solute carrier family 5 member 3**Dilution**

WB~~Western Blot: 1/500 - 1/2000. ELISA: 1/10000. Not yet tested in other applications.

Format

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

Storage Conditions

-20°C

SMIT Polyclonal Antibody - Protein Information**Name** SLC5A3 ([HGNC:11038](#))**Function**

Electrogenic Na(+)-coupled sugar symporter that actively transports myo-inositol and its stereoisomer scyllo-inositol across the plasma membrane, with a Na(+) to sugar coupling ratio of 2:1 (By similarity). Maintains myo-inositol concentration gradient that defines cell volume and fluid balance during osmotic stress, in particular in the fetoplacental unit and central nervous system (By similarity). Forms coregulatory complexes with voltage-gated K(+) ion channels, allosterically altering ion selectivity, voltage dependence and gating kinetics of the channel. In turn, K(+) efflux through the channel forms a local electrical gradient that modulates electrogenic Na(+)-coupled myo-inositol influx through the transporter (PubMed:24595108, PubMed:28793216). Associates with KCNQ1-KCNE2 channel in the apical membrane of choroid plexus epithelium and regulates the myo-inositol gradient between blood and cerebrospinal fluid with an impact on neuron excitability (By similarity) (PubMed:24595108). Associates with KCNQ2- KCNQ3 channel altering ion selectivity, increasing Na(+) and Cs(+) permeation relative to K(+) permeation (PubMed:<a

[28793216](http://www.uniprot.org/citations/28793216)). Provides myo- inositol precursor for biosynthesis of phosphoinositides such as PI(4,5)P2, thus indirectly affecting the activity of phosphoinositide- dependent ion channels and Ca(2+) signaling upon osmotic stress (PubMed: [27217553](http://www.uniprot.org/citations/27217553)).

Cellular Location

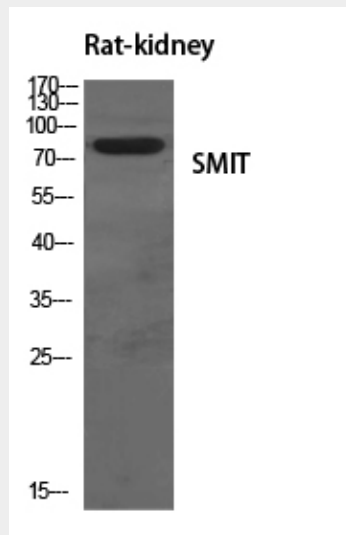
Apical cell membrane {ECO:0000250|UniProtKB:Q9JKZ2}; Multi-pass membrane protein.
Basolateral cell membrane {ECO:0000250|UniProtKB:Q9JKZ2}; Multi-pass membrane protein.
Note=Colocalizes with KCNQ1 at the apical membrane of choroid plexus epithelium.
{ECO:0000250|UniProtKB:Q9JKZ2}

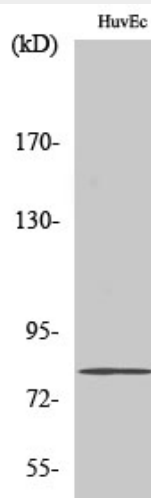
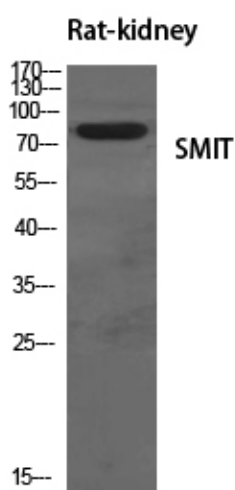
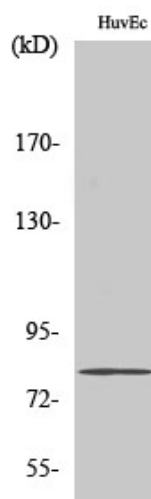
SMIT Polyclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

SMIT Polyclonal Antibody - Images





SMIT Polyclonal Antibody - Background

Prevents intracellular accumulation of high concentrations of myo-inositol (an osmolyte) that result in impairment of cellular function.