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STIM1 Antibody
Catalog # ASC10530

Specification

STIM1 Antibody - Product Information

Application	**WB, IHC-P, E**
Primary Accession	Q13586
Other Accession	NP_003147, 6786
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**Predicted: 59, 75, 87 kDa** **Observed: 88 kDa KDa**
Application Notes	**STIM1 antibody can be used for detection of STIM1 by Western blot at 1 - 2 µg/mL. Antibody can also be used for immunohistochemistry starting at 2.5 µg/mL.**

STIM1 Antibody - Additional Information

Gene ID **6786**

Other Names
STIM1 Antibody: GOK, TAM, IMD10, D11S4896E, GOK, Stromal interaction molecule 1, stromal interaction molecule 1

Target/Specificity
STIM1 antibody was raised against a 24 amino acid synthetic peptide from near the carboxy terminus of human STIM1.

The immunogen is located within the last 50 amino acids of STIM1.

Reconstitution & Storage
STIM1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions
STIM1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

STIM1 Antibody - Protein Information

Name STIM1

Synonyms GOK {ECO:0000303|PubMed:9377559}

Function

Acts as a Ca(2+) sensor that gates two major inward rectifying Ca(2+) channels at the plasma membrane: Ca(2+) release- activated Ca(2+) (CRAC) channels and arachidonate-regulated Ca(2+)- selective (ARC) channels (PubMed:15866891, PubMed:16005298, PubMed:16208375, PubMed:16537481, PubMed:16733527, PubMed:16766533, PubMed:16807233, PubMed:18854159, PubMed:19182790, PubMed:19249086, PubMed:19622606, PubMed:19706554, PubMed:22464749, PubMed:24069340, PubMed:24351972, PubMed:24591628, PubMed:25326555, PubMed:26322679, PubMed:28219928, PubMed:32415068). Plays a role in mediating store- operated Ca(2+) entry (SOCE), a Ca(2+) influx following depletion of intracellular Ca(2+) stores. Upon Ca(2+) depletion, translocates from the endoplasmic reticulum to the plasma membrane where it activates CRAC channel pore-forming subunits ORA1, ORA2 and ORAI3 to generate sustained and oscillatory Ca(2+) entry (PubMed:16208375, PubMed:16537481, PubMed:32415068). Involved in enamel formation (PubMed:24621671).

Cellular Location
Cell membrane; Single-pass type I membrane protein. Endoplasmic reticulum membrane; Single-pass type I membrane protein. Cytoplasm, cytoskeleton. Sarcoplasmic reticulum. Note=Translocates from the endoplasmic reticulum to the cell membrane in response to a depletion of intracellular calcium and is detected at punctae corresponding to junctions between the endoplasmic reticulum and the cell membrane (PubMed:16005298, PubMed:16208375, PubMed:18854159, PubMed:19182790, PubMed:19249086). Associated with the microtubule network at the growing distal tip of microtubules (PubMed:19632184). Colocalizes with ORAI1 at the cell membrane (PubMed:27185316). Colocalizes preferentially with CASQ1 at endoplasmic reticulum in response to a depletion of intracellular calcium (PubMed:27185316)

Tissue Location
Ubiquitously expressed in various human primary cells and tumor cell lines.

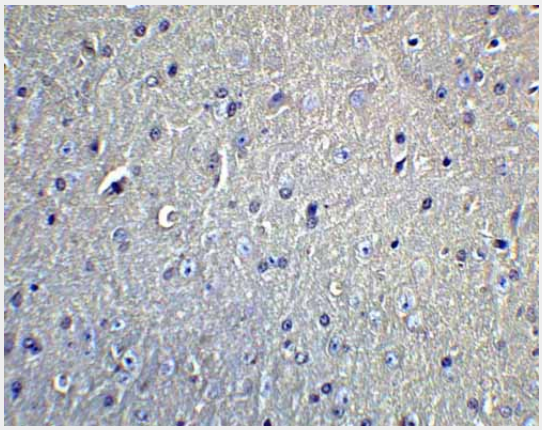
STIM1 Antibody - Protocols

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

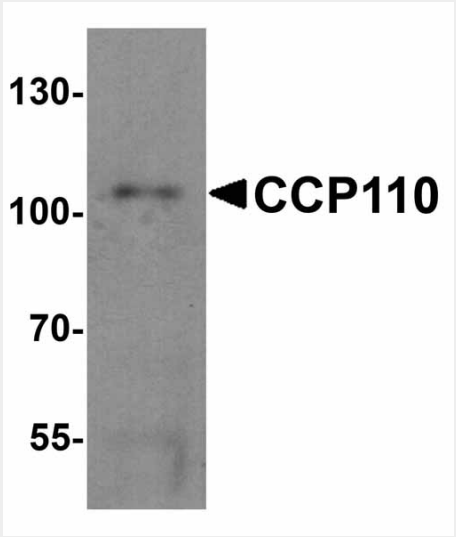
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence

- Immunoprecipitation
- Flow Cytomety
- Cell Culture

STIM1 Antibody - Images



Immunohistochemistry of DCLK1 in mouse brain tissue with DCLK1 Antibodyat 5 µg/mL.



Western blot analysis of CCP110 in human colon tissue lysate with CCP110 antibody at 1 µg/mL.

STIM1 Antibody - Background

STIM1 Antibody: In T lymphocytes, the sole pathway for Ca2+ entry following antigen-receptor binding is through store-operated Ca2+-release-activated Ca2+ (CRAC) channels. These channels are made up of the pore-forming subunit ORAI1 and the stromal interaction molecule 1 (STIM1), a protein that functions as a Ca2+ sensor and activates the CRAC channels, migrating to the plasma membrane from endoplasmic reticulum (ER)-like sites which act as the Ca2+ store. A related molecule, STIM2, acts to inhibit the STIM1-mediated store-operated Ca2+ entry, and can form complexes with STIM1, suggesting they may play a coordinated role in controlling Ca2+ entry.

STIM1 Antibody - References

Luik RM and Lewis RS. New insights into the molecular mechanisms of store-operated Ca2+ signaling in T cells. Trends Mol. Med. 2007; 13:103-7.
Feske S, Gwack Y, Prakriya M, et al. A mutation in Orai1 causes immune deficiency by abrogating

CRAC channel function. Nature 2006; 441:179-85.
Zhang SL, Yu Y, Roos J, et al. STIM1 is a Ca2+ sensor that activates CRAC channels and migrates from the Ca2+ store to the plasma membrane. Nature 2005; 437:902-5.
Spassova MA, Soboloff J, He L-P, et al. STIM1 has a plasma membrane role in the activation of store-operated Ca2+ channels. Proc. Natl. Acad. Sci. USA 2006; 103:4040-5.