

# STIM1 Antibody (monoclonal) (M01)

Mouse monoclonal antibody raised against a full length recombinant STIM1.

Catalog # AT4075a

## Product Information

---

<b>Application</b>	WB, IHC, IF, E
<b>Primary Accession</b>	<a href="#">Q13586</a>
<b>Other Accession</b>	<a href="#">BC021300</a>
<b>Reactivity</b>	Human
<b>Host</b>	mouse
<b>Clonality</b>	monoclonal
<b>Isotype</b>	IgG2a Kappa
<b>Clone Names</b>	5A2
<b>Calculated MW</b>	77423

## Additional Information

---

<b>Gene ID</b>	6786
<b>Other Names</b>	Stromal interaction molecule 1, STIM1, GOK
<b>Target/Specificity</b>	STIM1 (AAH21300, 24 a.a. ~ 685 a.a) full-length recombinant protein with GST tag. MW of the GST tag alone is 26 KDa.
<b>Dilution</b>	WB~~1:500~1000 IHC~~1:100~500 IF~~1:50~200 E~~N/A
<b>Format</b>	Clear, colorless solution in phosphate buffered saline, pH 7.2 .
<b>Storage</b>	Store at -20°C or lower. Aliquot to avoid repeated freezing and thawing.
<b>Precautions</b>	STIM1 Antibody (monoclonal) (M01) is for research use only and not for use in diagnostic or therapeutic procedures.

## Background

---

This gene encodes a type 1 transmembrane protein that mediates Ca<sup>2+</sup> influx after depletion of intracellular Ca<sup>2+</sup> stores by gating of store-operated Ca<sup>2+</sup> influx channels (SOCs). It is one of several genes located in the imprinted gene domain of 11p15.5, an important tumor-suppressor gene region. Alterations in this region have been associated with the Beckwith-Wiedemann syndrome, Wilms tumor, rhabdomyosarcoma, adrenocortical carcinoma, and lung, ovarian, and breast cancer. This gene may play a role in malignancies and disease that involve this region, as well as early hematopoiesis, by mediating attachment to stromal cells. This gene is oriented in a head-to-tail configuration with the ribonucleotide reductase 1 gene (RRM1), with the 3' end of this gene situated 1.6 kb from the 5' end of the RRM1 gene.

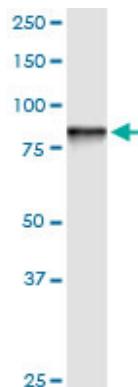
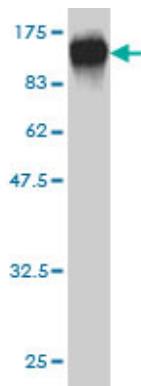
## References

---

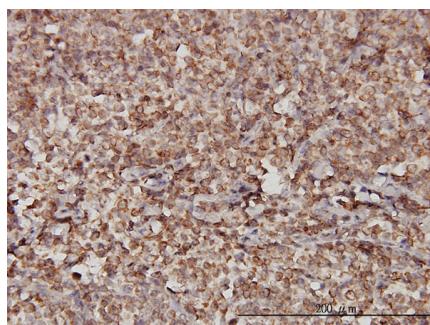
1.Identification of stim1 as a candidate gene for exaggerated sympathetic response to stress in the stroke-prone spontaneously hypertensive rat.Ferdaus MZ, Xiao B, Ohara H, Nemoto K, Harada Y, Saar K, Hubner N, Isomura M, Nabika TPLoS One. 2014 Apr 15;9(4):e95091. doi: 10.1371/journal.pone.0095091. eCollection 2014.2.Store-Operated Ca(2) (+) Entry (SOCE) Regulates Melanoma Proliferation and Cell Migration.Umemura M, Baljinnyam E, Feske S, De Lorenzo MS, Xie LH, Feng X, Oda K, Makino A, Fujita T, Yokoyama U, Iwatubo M, Chen S, Goydos JS, Ishikawa Y, Iwatubo KPLoS One. 2014 Feb 21;9(2):e89292. doi: 10.1371/journal.pone.0089292. eCollection 2014.3.SGK3 Regulates Ca Entry and Migration of Dendritic Cells.Schmid E, Bhandaru M, Nurbaeva MK, Yang W, Szteyn K, Russo A, Leibrock C, Tyan L, Pearce D, Shumilina E, Lang F.Cell Physiol Biochem. 2012;30(6):1423-35. doi: 10.1159/000343330. Epub 2012 Nov 22.4.Lysophosphatidic Acid Promotes Cell Migration through STIM1- and Orai1-Mediated Ca(2+)(i) Mobilization and NFAT2 Activation.Jans R, Mottram L, Johnson DL, Brown AM, Sikkink S, Ross K, Reynolds NJJ Invest Dermatol. 2013 Mar;133(3):793-802. doi: 10.1038/jid.2012.370. Epub 2012 Oct 25.5.Stromal interaction molecule 1 (STIM1) is involved in the regulation of mitochondrial shape and bioenergetics and plays a role in oxidative stress.Henke N, Albrecht P, Pfeiffer A, Toutzaris D, Zanger K, Methner A.J Biol Chem. 2012 Oct 17. [Epub ahead of print]6.Intracellular cyclophilin A is an important Ca<sup>2+</sup> regulator in platelets and critically involved in arterial thrombus formation.Elvers M, Herrmann A, Seizer P, Munzer P, Beck S, Schonberger T, Borst O, Martin-Romero FJ, Lang F, May AE, Gawaz M.Blood. 2012 Aug 9;120(6):1317-26. Epub 2012 Jun 27.7.Transcription factor NF-?eB regulates the expressions of a pore-forming unit, Orai1, and its activator, STIM1, to control Ca<sup>2+</sup> entry and affect cellular functions.Eylenstein A, Schmidt S, Gu S, Yang W, Schmid E, Schmidt EM, Alesutan I, Szteyn K, Regel I, Shumilina E, Lang F.J Biol Chem. 2011 Nov 21.8.Store-operated calcium entry modulates neuronal network activity in a model of chronic epilepsy.Steinbeck JA, Henke N, Opatz J, Gruszczynska-Biegala J, Schneider L, Theiss S, Hamacher N, Steinfartz B, Golz S, Brustle O, Kuznicki J, Methner A.Exp Neurol. 2011 Aug 30. [Epub ahead of print]9.STIM1 as a key regulator for Ca<sup>2+</sup> homeostasis in skeletal-muscle development and function.Kiviluoto S, Decuypere JP, De Smedt H, Missiaen L, Parys JB, Bultynck G.Skelet Muscle. 2011 Apr 4;1(1):16.10.Identification of functional domains and novel binding partners of STIM proteins.Saitoh N, Oritani K, Saito K, Yokota T, Ichii M, Sudo T, Fujita N, Nakajima K, Okada M, Kanakura Y.J Cell Biochem. 2010 Nov 4. [Epub ahead of print]11.Stromal Interaction Molecules 1 and 2 Are Key Regulators of Autoreactive T Cell Activation in Murine Autoimmune Central Nervous System Inflammation.Schuhmann MK, Stegner D, Berna-Erro A, Bittner S, Braun A, Kleinschnitz C, Stoll G, Wiendl H, Meuth SG, Nieswandt B.J Immunol. 2010 Feb 1;184(3):1536-42. Epub 2009 Dec 18.12.Activation of TRPC1 by STIM1 in ER-PM microdomains involves release of the channel from its scaffold caveolin-1.Pani B, Ong HL, Brazer SC, Liu X, Rauser K, Singh BB, Ambudkar IS.Proc Natl Acad Sci U S A. 2009 Nov 24;106(47):20087-20092. Epub 2009 Nov 6.13.STIM1-Independent T Cell Development and Effector Function In Vivo.Beyersdorf N, Braun A, Vogtle T, Varga-Szabo D, Galdos RR, Kissler S, Kerkau T, Nieswandt B.J Immunol. 2009 Mar 15;182(6):3390-7.14.Proteome-Wide Identification of Novel Binding Partners to the Oncogenic Fusion Gene Protein, NPM-ALK, using Tandem Affinity Purification and Mass Spectrometry.Wu F, Wang P, Young LC, Lai R, Li L.Am J Pathol. 2009 Feb;174(2):361-70. Epub 2009 Jan 8.15.STIM1 is essential for Fc{gamma} receptor activation and autoimmune inflammation.Braun A, Gessner JE, Varga-Szabo D, Syed SN, Konrad S, Stegner D, Vogtle T, Schmidt RE, Nieswandt B.Blood. 2009 Jan 29;113(5):1097-104. Epub 2008 Oct 21.16.The calcium sensor STIM1 is an essential mediator of arterial thrombosis and ischemic brain infarction.Varga-Szabo D, Braun A, Kleinschnitz C, Bender M, Pleines I, Pham M, Renne T, Stoll G, Nieswandt B.J Exp Med. 2008 Jul 7;205(7):1583-91. Epub 2008 Jun 16.17.Lipid rafts determine clustering of STIM1 in ER-plasma membrane junctions and regulation of SOCE.Pani B, Ong HL, Liu X, Rauser K, Ambudkar IS, Singh BB.J Biol Chem. 2008 Jun 20;283(25):17333-40. Epub 2008 Apr 22.18.STIM1 converts TRPC1 from a receptor-operated to a store-operated channel: Moving TRPC1 in and out of lipid rafts.Alicia S, Angelica Z, Carlos S, Alfonso S, Luis V.Cell Calcium. 2008 Nov;44(5):479-91. Epub 2008 May 23.19.An EF hand mutation in Stim1 causes premature platelet activation and bleeding in mice.Grosse J, Braun A, Varga-Szabo D, Beyersdorf N, Schneider B, Zeitlmann L, Hanke P, Schropp P, Muhlstedt S, Zorn C, Huber M, Schmittwolf C, Jagla W, Yu P, Kerkau T, Schulze H, Nehls M, Nieswandt B.J Clin Invest. 2007 Nov 1;117(11):3540-3550.

## Images

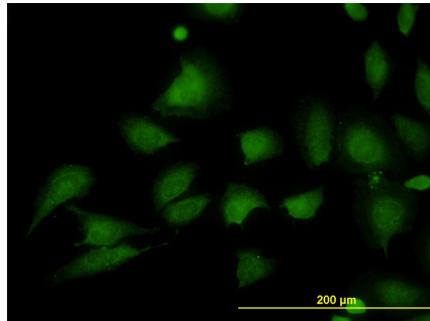
Antibody Reactive Against Recombinant Protein.Western Blot detection against Immunogen (98.56 KDa) .



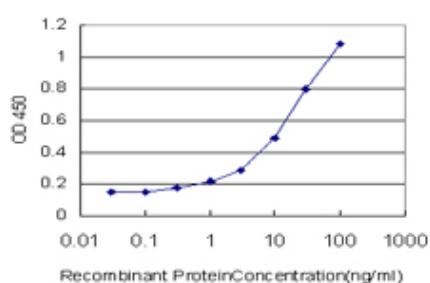
STIM1 monoclonal antibody (M01), clone 5A2. Western Blot analysis of STIM1 expression in human liver.



Immunoperoxidase of monoclonal antibody to STIM1 on formalin-fixed paraffin-embedded human malignant lymphoma, diffuse large B. [antibody concentration 3 ug/ml]



Immunofluorescence of monoclonal antibody to STIM1 on HeLa cell. [antibody concentration 10 ug/ml]



Detection limit for recombinant GST tagged STIM1 is approximately 0.3ng/ml as a capture antibody.

## Citations

- [Selenoprotein K knockout mice exhibit deficient calcium flux in immune cells and impaired immune responses.](#)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.