

STIM1 Antibody (monoclonal) (M01)

Mouse monoclonal antibody raised against a full length recombinant STIM1.

Catalog # AT4075a

Specification

STIM1 Antibody (monoclonal) (M01) - Product Information

Application	IF, WB, IHC, E
Primary Accession	Q13586
Other Accession	BC021300
Reactivity	Human
Host	mouse
Clonality	Monoclonal
Isotype	IgG2a Kappa
Calculated MW	77423

STIM1 Antibody (monoclonal) (M01) - Additional Information

Gene ID 6786

Other Names

Stromal interaction molecule 1, STIM1, GOK

Target/Specificity

STIM1 (AAH21300, 24 a.a. ~ 685 a.a) full-length recombinant protein with GST tag. MW of the GST tag alone is 26 KDa.

Dilution

WB~~1:500~1000

Format

Clear, colorless solution in phosphate buffered saline, pH 7.2 .

Storage

Store at -20°C or lower. Aliquot to avoid repeated freezing and thawing.

Precautions

STIM1 Antibody (monoclonal) (M01) is for research use only and not for use in diagnostic or therapeutic procedures.

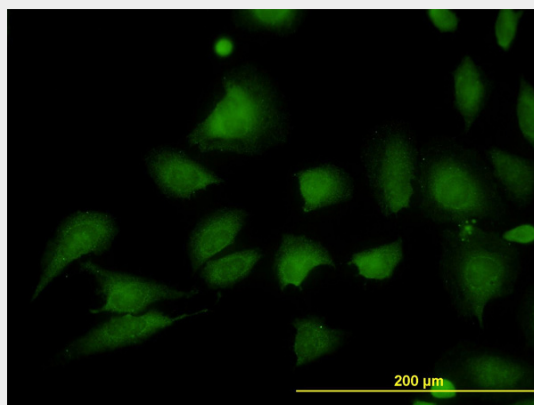
STIM1 Antibody (monoclonal) (M01) - Protocols

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

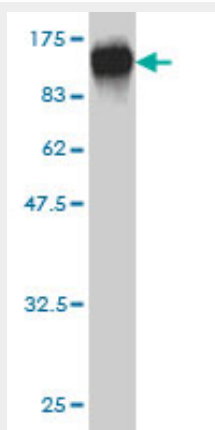
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)

- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

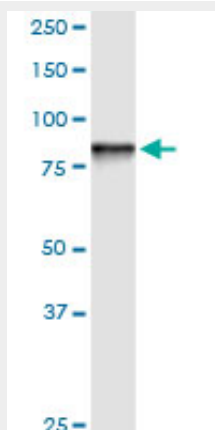
STIM1 Antibody (monoclonal) (M01) - Images



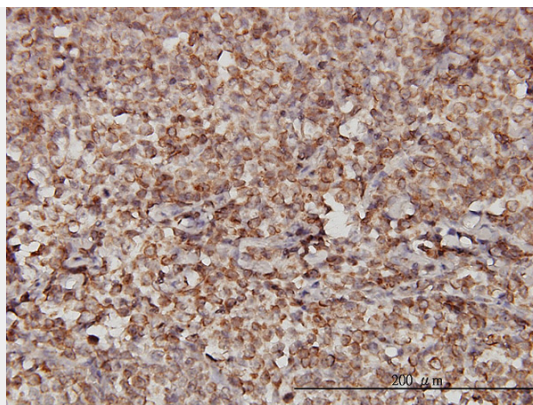
Immunofluorescence of monoclonal antibody to STIM1 on HeLa cell. [antibody concentration 10 ug/ml]



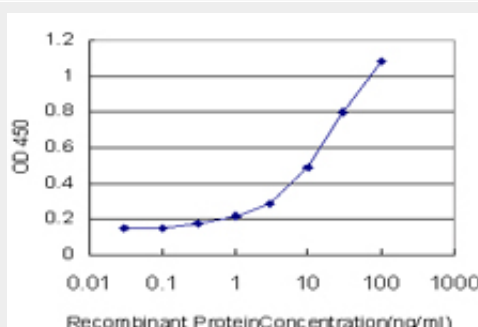
Antibody Reactive Against Recombinant Protein. Western Blot detection against Immunogen (98.56 KDa) .



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]



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

STIM1 Antibody (monoclonal) (M01) - Background

This gene encodes a type 1 transmembrane protein that mediates Ca^{2+} influx after depletion of intracellular Ca^{2+} stores by gating of store-operated Ca^{2+} 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.

STIM1 Antibody (monoclonal) (M01) - References

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3. SGK3 Regulates Ca^{2+} Entry and Migration of Dendritic Cells. Schmid E, Bhandaru M, Nurbaeva MK, Yang W, Sztejn 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.
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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 Ca²⁺ 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- κ B regulates the expressions of a pore-forming unit, Orai1, and its activator, STIM1, to control Ca²⁺ entry and affect cellular functions. Eylestein A, Schmidt S, Gu S, Yang W, Schmid E, Schmidt EM, Alesutan I, Sztejn 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, Steinfarz 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 Ca²⁺ 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.

STIM1 Antibody (monoclonal) (M01) - Citations

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