

#4916 Store at -20C

STIM1 Antibody

**Cell Signaling**
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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R Mk	Endogenous	85	Rabbit	#Q13586	6786

Product Usage Information**Application**Western Blotting
Immunoprecipitation**Dilution**1:1000
1:50**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

STIM1 Antibody detects endogenous levels of total STIM1 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the sequence of human STIM1. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Ca²⁺ is a key second messenger in many intracellular signaling pathways. Ca²⁺ signals control many cellular functions ranging from short-term responses such as contraction and secretion to longer-term regulation of cell growth and proliferation (1,2). Stromal interaction molecules (STIMs) function as Ca²⁺ sensors that detect changes in Ca²⁺ content in intracellular Ca²⁺ stores (3). STIM1 is conserved, ubiquitously expressed, and functions as an endoplasmic reticulum (ER) Ca²⁺ sensor that migrates from the ER Ca²⁺ store to the plasma membrane where it activates calcium-release-activated calcium (CRAC) channels when the ER Ca²⁺ store is low (4). STIM1 is a potential tumor suppressor; defects in STIM1 may cause rhabdomyosarcoma and rhabdoid tumors (5). STIM1 can either homodimerize or form heterodimers with STIM2. STIM2 possesses a high sequence identity to STIM1 and can function as an inhibitor of STIM1-mediated plasma membrane store-operated Ca²⁺ entry (6). However, further investigation is required to elucidate the true physiological function of STIM2.

Background References

- Berridge, M.J. et al. (2000) *Nat Rev Mol Cell Biol* 1, 11-21.
- Berridge, M.J. et al. (2003) *Nat Rev Mol Cell Biol* 4, 517-29.
- Zheng, L. et al. (2008) *Biochem Biophys Res Commun* 369, 240-6.
- Zhang, S.L. et al. (2005) *Nature* 437, 902-5.
- Manji, S.S. et al. (2000) *Biochim Biophys Acta* 1481, 147-55.
- Soboloff, J. et al. (2006) *Curr Biol* 16, 1465-70.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key**WB:** Western Blotting **IP:** Immunoprecipitation**Cross-Reactivity Key**

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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