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Store at -20C  
#5668

## STIM1 (D88E10) Rabbit mAb

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IF-IC	H M R Mk B	Endogenous	85	Rabbit IgG	#Q13586	6786

### Product Usage Information

#### Application

Western Blotting  
Immunoprecipitation  
Immunofluorescence (Immunocytochemistry)

#### Dilution

1:1000  
1:50  
1:800

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

### Specificity/Sensitivity

STIM1 (D88E10) Rabbit mAb recognizes endogenous levels of total STIM1 protein. The antibody does not cross-react with STIM2.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro622 of human STIM1 protein.

### Background

Ca<sup>2+</sup> is a key second messenger in many intracellular signaling pathways. Ca<sup>2+</sup> 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 Ca<sup>2+</sup> sensors that detect changes in Ca<sup>2+</sup> content in intracellular Ca<sup>2+</sup> stores (3). STIM1 is conserved, ubiquitously expressed, and functions as an endoplasmic reticulum (ER) Ca<sup>2+</sup> sensor that migrates from the ER Ca<sup>2+</sup> store to the plasma membrane where it activates calcium-release-activated calcium (CRAC) channels when the ER Ca<sup>2+</sup> 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 Ca<sup>2+</sup> 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.
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- 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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

### Applications Key

**W:** Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)

### Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey **B:** Bovine

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