

Stim1 (A-8): sc-166840

BACKGROUND

Ca²⁺ influx is essential for a variety of cellular functions including, secretion and transcription. Stromal interaction molecule 1 (Stim1) is a ubiquitously expressed cell surface transmembrane glycoprotein that plays a role in mediating Ca²⁺ influx following the depletion of intracellular Ca²⁺ stores. Stim1 functions in the endoplasmic reticulum (ER) where it acts as a Ca²⁺ sensor via its EF-hand domain which causes large conformational changes. When Ca²⁺ levels drop, Stim1 translocates from the ER to the plasma membrane, where it activates the Ca²⁺ release-activated Ca²⁺ (CRAC) channel subunit, TMEM142A/Orai1. Stim2 is a potent inhibitor of Stim1-mediated store-operated calcium (SOC) entry. Stim1 is implicated in tumor growth suppression and stromal-hematopoietic cell interactions.

CHROMOSOMAL LOCATION

Genetic locus: STIM1 (human) mapping to 11p15.4; Stim1 (mouse) mapping to 7 E3.

SOURCE

Stim1 (A-8) is a mouse monoclonal antibody raised against amino acids 441-620 mapping near the C-terminus of Stim1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Stim1 (A-8) is available conjugated to agarose (sc-166840 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166840 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166840 PE), fluorescein (sc-166840 FITC), Alexa Fluor® 488 (sc-166840 AF488), Alexa Fluor® 546 (sc-166840 AF546), Alexa Fluor® 594 (sc-166840 AF594) or Alexa Fluor® 647 (sc-166840 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166840 AF680) or Alexa Fluor® 790 (sc-166840 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Stim1 (A-8) is recommended for detection of Stim1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Stim1 siRNA (h): sc-76589, Stim1 siRNA (m): sc-76590, Stim1 siRNA (r): sc-270596, Stim1 shRNA Plasmid (h): sc-76589-SH, Stim1 shRNA Plasmid (m): sc-76590-SH, Stim1 shRNA Plasmid (r): sc-270596-SH, Stim1 shRNA (h) Lentiviral Particles: sc-76589-V, Stim1 shRNA (m) Lentiviral Particles: sc-76590-V and Stim1 shRNA (r) Lentiviral Particles: sc-270596-V.

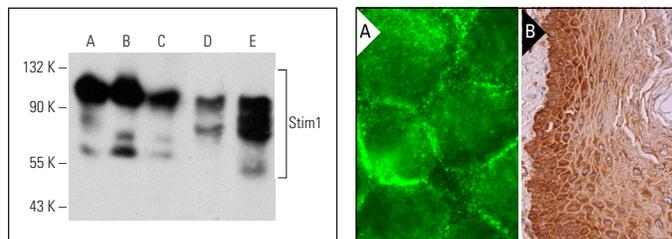
Molecular Weight of Stim1: 86 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Stim1 (A-8): sc-166840. Western blot analysis of Stim1 expression in Hep G2 (A), K-562 (B), Jurkat (C), L8 (D) and RBL-1 (E) whole cell lysates.

Stim1 (A-8): sc-166840. Immunofluorescence staining of formalin-fixed HeLa cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

- Lodola, F., et al. 2012. Store-operated Ca²⁺ entry is remodelled and controls *in vitro* angiogenesis in endothelial progenitor cells isolated from tumoral patients. *PLoS ONE* 7: e42541.
- Wang, L., et al. 2015. Retrograde regulation of Stim1-Orai1 interaction and store-operated Ca²⁺ entry by calsequestrin. *Sci. Rep.* 5: 11349.
- Yi, X., et al. 2016. The role of Stim1 in the Cr(VI)-induced [Ca²⁺]_i increase and cell injury in L-02 hepatocytes. *Metallomics* 8: 1273-1282.
- Lodola, F., et al. 2017. VEGF-induced intracellular Ca²⁺ oscillations are down-regulated and do not stimulate angiogenesis in breast cancer-derived endothelial colony forming cells. *Oncotarget* 8: 95223-95246.
- Li, S., et al. 2018. CaMKII potentiates store-operated Ca²⁺ entry through enhancing Stim1 aggregation and interaction with Orai1. *Cell. Physiol. Biochem.* 46: 1042-1054.
- Volz, J., et al. 2020. BIN2 orchestrates platelet calcium signaling in thrombosis and thrombo-inflammation. *J. Clin. Invest.* 130: 6064-6079.
- Nourbakhsh, K., et al. 2021. TAOK2 is an ER-localized kinase that catalyzes the dynamic tethering of ER to microtubules. *Dev. Cell* 56: 3321-3333.e5.
- Xie, J., et al. 2022. Identification of a Stim1 splicing variant that promotes glioblastoma growth. *Adv. Sci.* 9: e2103940.
- Yan, L., et al. 2023. Polystyrene nanoplastics promote the apoptosis in Caco-2 cells induced by okadaic acid more than microplastics. *Ecotoxicol. Environ. Saf.* 249: 114375.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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