

Stim1 (D-2): sc-166541

BACKGROUND

Ca²⁺ influx is essential for a variety of cellular functions including, secretion and transcription. Stromal interaction molecule 1 (Stim1) is an 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-haematopoietic cell interactions.

REFERENCES

1. Manji, S.S., et al. 2000. Stim1: a novel phosphoprotein located at the cell surface. *Biochim. Biophys. Acta* 1481: 147-155.
2. Williams, R.T., et al. 2002. Stromal interaction molecule 1 (Stim1), a transmembrane protein with growth suppressor activity, contains an extracellular Sam domain modified by N-linked glycosylation. *Biochim. Biophys. Acta* 1596: 131-137.

CHROMOSOMAL LOCATION

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

SOURCE

Stim1 (D-2) 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 IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Stim1 (D-2) 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) 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.

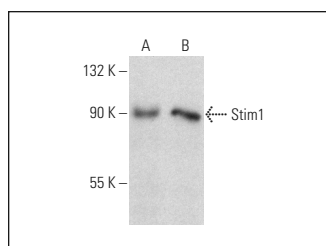
Molecular Weight of Stim1: 86 kDa.

Positive Controls: Stim1 (m): 293T Lysate: sc-127602, K-562 whole cell lysate: sc-2203 or Hep G2 cell lysate: sc-2227.

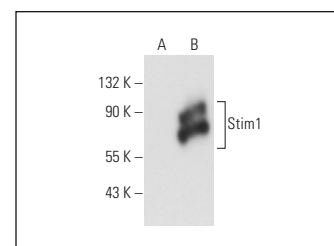
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Stim1 (D-2): sc-166541. Western blot analysis of Stim1 expression in K-562 (A) and Hep G2 (B) whole cell lysates.



Stim1 (D-2): sc-166541. Western blot analysis of Stim1 expression in non-transfected: sc-117752 (A) and mouse Stim1 transfected: sc-127602 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Rimessi A., et al. 2013. H-Ras-driven tumoral maintenance is sustained through caveolin-1-dependent alterations in calcium signaling. *Oncogene* 33: 2329-2340.
2. He, D., et al. 2015. The Wnt11 signaling pathway in potential cellular EMT and osteochondral differentiation progression in nephrolithiasis formation. *Int. J. Mol. Sci.* 16: 16313-16329.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.