

# Orai2 (H-49): sc-292103

## BACKGROUND

Orai2 (orai calcium release-activated calcium modulator 2), also known as CBCIP2 (CAP-binding protein complex-interacting protein 2) or TMEM142B (transmembrane protein 142B), is a 254 amino acid multi-pass membrane protein that belongs to the orai family of proteins. Localizing to the plasma membrane, Orai2 plays an important role in store-operated calcium (SOC) entry, a process involving  $Ca^{2+}$  influx and replenishment of  $Ca^{2+}$  stores formerly emptied through the action of inositol 1,4,5-trisphosphate production and other  $Ca^{2+}$  mobilizing agents. CRAC channels are responsible for mediating calcium influx in T cells and play an important role in the immune response. Orai2 specifically increases the  $Ca^{2+}$ -selective current through coaction with the  $Ca^{2+}$  sensor Stim1.

## REFERENCES

1. Mercer, J.C., Dehaven, W.I., Smyth, J.T., Wedel, B., Boyles, R.R., Bird, G.S. and Putney, J.W. 2006. Large store-operated calcium selective currents due to coexpression of Orai1 or Orai2 with the intracellular calcium sensor, Stim1. *J. Biol. Chem.* 281: 24979-24990.
2. Feske, S., Gwack, Y., Prakriya, M., Srikanth, S., Puppel, S.H., Tanasa, B., Hogan, P.G., Lewis, R.S., Daly, M. and Rao, A. 2006. A mutation in Orai1 causes immune deficiency by abrogating CRAC channel function. *Nature* 441: 179-185.
3. DeHaven, W.I., Smyth, J.T., Boyles, R.R. and Putney, J.W. 2007. Calcium inhibition and calcium potentiation of Orai1, Orai2 and Orai3 calcium release-activated calcium channels. *J. Biol. Chem.* 282: 17548-17556.
4. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610929. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Peinelt, C., Lis, A., Beck, A., Fleig, A. and Penner, R. 2008. 2-aminoethoxydiphenyl borate directly facilitates and indirectly inhibits Stim1-dependent gating of CRAC channels. *J. Physiol.* 586: 3061-3073.

## CHROMOSOMAL LOCATION

Genetic locus: ORAI2 (human) mapping to 7q22.1; Orai2 (mouse) mapping to 5 G2.

## SOURCE

Orai2 (H-49) is a rabbit polyclonal antibody raised against amino acids 1-49 mapping at the N-terminus of Orai2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## 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.

## APPLICATIONS

Orai2 (H-49) is recommended for detection of Orai2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Orai2 (H-49) is also recommended for detection of Orai2 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for Orai2 siRNA (h): sc-76003, Orai2 siRNA (m): sc-76004, Orai2 shRNA Plasmid (h): sc-76003-SH, Orai2 shRNA Plasmid (m): sc-76004-SH, Orai2 shRNA (h) Lentiviral Particles: sc-76003-V and Orai2 shRNA (m) Lentiviral Particles: sc-76004-V.

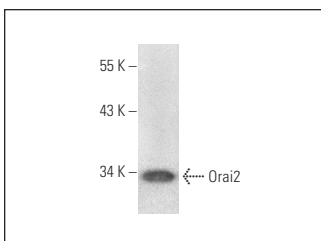
Molecular Weight of Orai2: 28 kDa.

Positive Controls: mouse cerebellum extract: sc-2403.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Orai2 (H-49): sc-292103. Western blot analysis of Orai2 expression in mouse cerebellum tissue extract.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **Orai2 (G-5): sc-376757** or **Orai2 (C-12): sc-376749**, our highly recommended monoclonal alternatives to Orai2 (H-49).