

Orai2 (G-5): sc-376757

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

- Mercer, J.C., et al. 2006. Large store-operated calcium selective currents due to co-expression of Orai1 or Orai2 with the intracellular calcium sensor, Stim1. *J. Biol. Chem.* 281: 24979-24990.
- Feske, S., et al. 2006. A mutation in Orai1 causes immune deficiency by abrogating CRAC channel function. *Nature* 441: 179-185.
- DeHaven, W.I., et al. 2007. Calcium inhibition and calcium potentiation of Orai1, Orai2, and Orai3 calcium release-activated calcium channels. *J. Biol. Chem.* 282: 17548-17556.

CHROMOSOMAL LOCATION

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

SOURCE

Orai2 (G-5) is a mouse monoclonal antibody raised against amino acids 1-49 mapping at the N-terminus of Orai2 of human origin.

PRODUCT

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

Orai2 (G-5) is available conjugated to agarose (sc-376757 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376757 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376757 PE), fluorescein (sc-376757 FITC), Alexa Fluor[®] 488 (sc-376757 AF488), Alexa Fluor[®] 546 (sc-376757 AF546), Alexa Fluor[®] 594 (sc-376757 AF594) or Alexa Fluor[®] 647 (sc-376757 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376757 AF680) or Alexa Fluor[®] 790 (sc-376757 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

Orai2 (G-5) is recommended for detection of Orai2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 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.

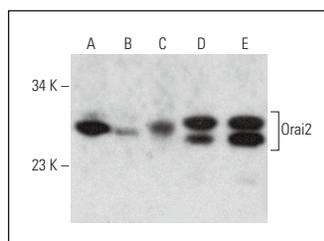
Molecular Weight of Orai2: 28 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, NCI-H1299 whole cell lysate: sc-364234 or Daudi cell lysate: sc-2415.

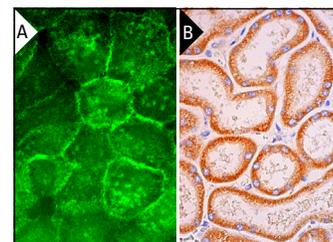
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Orai2 (G-5): sc-376757. Western blot analysis of Orai2 expression in MCF7 (A), NCI-H1299 (B), Daudi (C), NRK (D) and C6 (E) whole cell lysates.



Orai2 (G-5): sc-376757. Immunofluorescence staining of formalin-fixed A-431 cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (B).

SELECT PRODUCT CITATIONS

- Castillo-Galán, S., et al. 2020. Stim-activated TRPC-ORAI channels in pulmonary hypertension induced by chronic intermittent hypoxia. *Pulm. Circ.* 10: 13-22.

RESEARCH USE

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