Orai1 (G-2): sc-377281

**BACKGROUND**

Orai1 (Orai calcium release-activated calcium modulator 1), also known as ORAI1, CRACM1 (calcium release-activated calcium modulator 1) or TMEM142A (transmembrane protein 142A), is a 301 amino acid multi-pass membrane protein that belongs to the Orai family of proteins. Localizing to the plasma membrane, Orai1 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. Specifically, Orai1 functions as a pore subunit of the store-operated calcium release-activated calcium channel (CRAC) and is essential for proper function of the CRAC channel. CRAC channels are responsible for mediating calcium influx in T-cells and play an important role in the immune response. Mutations in the gene encoding Orai1 can result in severe combined immunodeficiency (SCID).

**CHROMOSOMAL LOCATION**

Genetic locus: ORAI1 (human) mapping to 12q24.31.

**SOURCE**

Orai1 (G-2) is a mouse monoclonal antibody raised against amino acids 256-301 mapping at the C-terminus of Orai1 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG\(_1\) kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Orai1 (G-2) is available conjugated to agarose (sc-377281 AC), 500 µg/ml agarose, for WB, IHC(P) and IP; to either phycoerythrin (sc-377281 PE), fluorescein (sc-377281 FITC), Alexa Fluor® 488 (sc-377281 AF488), Alexa Fluor® 546 (sc-377281 AF546), Alexa Fluor® 594 (sc-377281 AF594) or Alexa Fluor® 647 (sc-377281 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377281 AF680) or Alexa Fluor® 790 (sc-377281 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

**APPLICATIONS**

Orai1 (G-2) is recommended for detection of Orai1 of 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 1:300-1:3000).

Orai1 (G-2) is also recommended for detection of Orai1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for Orai1 siRNA (h): sc-76001, Orai1 shRNA Plasmid (h): sc-76001-SH and Orai1 shRNA (h) Lentiviral Particles: sc-76001-V.

Molecular Weight of Orai1: 38 kDa.

Molecular Weight of glycosylated Orai1: 50 kDa.

**STORAGE**

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

**DATA**

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

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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

**PROTOCOLS**

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

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