

RSAD2 (G-8): sc-390342

BACKGROUND

RSAD2 (radical S-adenosyl methionine domain-containing protein 2), also known as CIG5 (cytomegalovirus-induced gene 5 protein), vig1, viperin or CIG33, is a 361 amino acid protein that is involved in antiviral defense against pathogens such as Hep C, Cytomegalovirus and HIV-1. Localized to the cytosolic side of the endoplasmic reticulum and relocated to the Golgi apparatus upon viral infection, RSAD2 is thought to prevent viral budding by disrupting lipid rafts at the plasma membrane and supporting the interferon-induced antiviral state of the cell. Additionally, RSAD2 can bind to and inactivate FDPS (an enzyme that is crucial for the synthesis of cholesterol and geranylated and farnesylated proteins), thereby playing a role in lipid synthesis. Overexpression of RSAD2 leads to abnormal lipid accumulation that is associated with atherosclerosis, a chronic inflammatory disease characterized by hardened arteries.

REFERENCES

- Chin, K.C., et al. 2001. Viperin (cig5), an IFN-inducible antiviral protein directly induced by human cytomegalovirus. *Proc. Natl. Acad. Sci. USA* 98: 15125-15130.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607810. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Olofsson, P.S., et al. 2005. The antiviral cytomegalovirus inducible gene 5/viperin is expressed in atherosclerosis and regulated by proinflammatory agents. *Arterioscler. Thromb. Vasc. Biol.* 25: e113-e116.
- Helbig, K.J., et al. 2005. Analysis of ISG expression in chronic hepatitis C identifies viperin as a potential antiviral effector. *Hepatology* 42: 702-710.
- Severa, M., et al. 2006. Toll-like receptor-dependent and -independent viperin gene expression and counter-regulation by PRDI-binding factor-1/BLIMP1. *J. Biol. Chem.* 281: 26188-26195.

CHROMOSOMAL LOCATION

Genetic locus: RSAD2 (human) mapping to 2p25.2; Rsd2 (mouse) mapping to 12 A2.

SOURCE

RSAD2 (G-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 126-138 within an internal region of RSAD2 of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390342 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

RSAD2 (G-8) is recommended for detection of RSAD2 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 RSAD2 siRNA (h): sc-94261, RSAD2 siRNA (m): sc-153136, RSAD2 shRNA Plasmid (h): sc-94261-SH, RSAD2 shRNA Plasmid (m): sc-153136-SH, RSAD2 shRNA (h) Lentiviral Particles: sc-94261-V and RSAD2 shRNA (m) Lentiviral Particles: sc-153136-V.

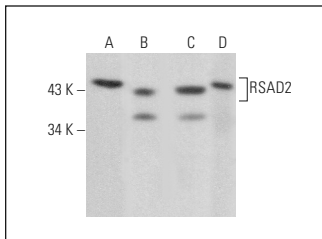
Molecular Weight of RSAD2: 43 kDa.

Positive Controls: AMJ2-C8 whole cell lysate: sc-364366, A-431 whole cell lysate: sc-2201 or KNRK whole cell lysate: sc-2214.

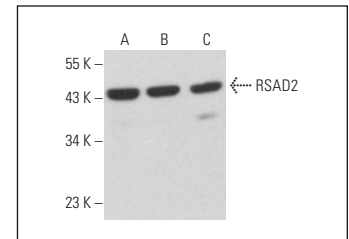
RECOMMENDED SUPPORT REAGENTS

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



RSAD2 (G-8): sc-390342. Western blot analysis of RSAD2 expression in AMJ2-C8 (A), A549 (B) and A-431 (C) whole cell lysates and mouse postnatal kidney tissue extract (D).



RSAD2 (G-8): sc-390342. Western blot analysis of RSAD2 expression in AMJ2-C8 (A), M1 (B) and KNRK (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Lee, S.H., et al. 2021. The expression of ephrinA1/ephrinA2 receptor increases in chronic rhinosinusitis and ephrinA1/ephrinA2 signaling affects rhinovirus-induced innate immunity in human sinonasal epithelial cells. *Front. Immunol.* 12: 793517.

STORAGE

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