SANTA CRUZ BIOTECHNOLOGY, INC.

OAS2 (G-9): sc-271117

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The 2'- 5'- oligoadenylate synthetase (OAS) family is comprised of four members: OAS1, OAS2, OAS3 and OASL. These proteins are induced by interferons and function to convert ATP into 2'- 5'- linked oligomers of adenosine in the presence of double-stranded RNA and magnesium ions. Copper, iron and zinc ions strongly inhibit the OAS enzymatic activity, while manganese ions can replace magnesium ions as an activator. The OAS family plays a significant role in the inhibition of cellular protein synthesis as well as in viral infection resistance. OAS2, which represents the "medium form" in the OAS family, contains two OAS1-homologous domains separated by a proline-rich putative linker region. It is functionally active as a dimer. Abnormal expression patterns of OAS2 may be linked to infection flare in lupus patients.

REFERENCES

1. Corrias, M.V., et al. 1995. Induction of 2.5 OAS gene expression and activity is not sufficient for IFN-γ-induced neuroblastoma cell differentiation. Int. J. Cancer 62: 223-229.
2. Hartmann, R., et al. 2001. Inhibition of 2'- 5'- oligo-adenylate synthetase by divalent metal ions. FEBS Lett. 507: 54-58.

CHROMOSOMAL LOCATION

Genetic locus: OAS2 (human) mapping to 12q24.13; Oas2 (mouse) mapping to 5 F.

SOURCE

OAS2 (G-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 706-735 near the C-terminus of OAS2 of mouse 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-271117 X, 200 µg/0.1 ml.

OAS2 (G-9) is available conjugated to agarose (sc-271117 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271117 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271117 PE), fluorescein (sc-271117 FITC), Alexa Fluor® 488 (sc-271117 AF488), Alexa Fluor® 546 (sc-271117 AF546), Alexa Fluor® 594 (sc-271117 AF594) or Alexa Fluor® 647 (sc-271117 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271117 AF680) or Alexa Fluor® 790 (sc-271117 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271117 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

OAS2 (G-9) is recommended for detection of OAS2 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), 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).

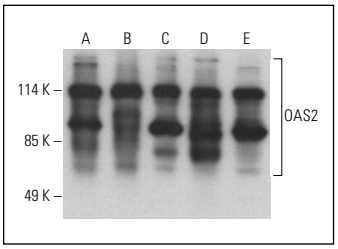
Suitable for use as control antibody for OAS2 siRNA (h): sc-61243, OAS2 siRNA (m): sc-61244, OAS2 shRNA Plasmid (h): sc-61243-SH, OAS2 shRNA Plasmid (m): sc-61244-SH, OAS2 shRNA (h) Lentiviral Particles: sc-61243-V and OAS2 shRNA (m) Lentiviral Particles: sc-61244-V.

OAS2 (G-9) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

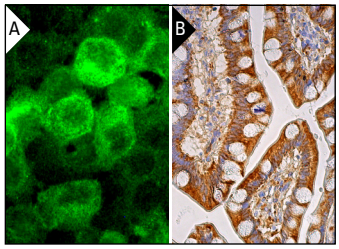
Molecular Weight of OAS2: 69 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, HL-60 whole cell lysate: sc-2209 or GA-10 whole cell lysate: sc-364230.

DATA



OAS2 (G-9) HRP: sc-271117 HRP. Direct western blot analysis of OAS2 expression in RAW 264.7 (**A**), SP2/0 (**B**), GA-10 (**C**), HL-60 (**D**) and BJAB (**E**) whole cell lysates.



OAS2 (G-9): sc-271117. Immunofluorescence staining of formalin-fixed A-431 cells showing cytoplasmic and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Pollok, S., et al. 2013. Interferon α-armed nanoparticles trigger rapid and sustained Stat1-dependent anti-viral cellular responses. Cell. Signal. 25: 989-998.
2. Raikhy, G., et al. 2019. Suppression of stromal interferon signaling by human papillomavirus 16. J. Virol. 93: e00458-19.
3. Scott, M.L., et al. 2020. Human papillomavirus type 16 E5 inhibits interferon signaling and supports episomal viral maintenance. J. Virol. 94: e01582-19.
4. Göder, A., et al. 2021. STAT1 N-terminal domain discriminatively controls type I and type II IFN signaling. Cytokine 144: 155552.

RESEARCH USE

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