

OAS2 (C-1): sc-374238

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.
3. Kakuta, S., et al. 2002. Genomic structure of the mouse 2'-5' oligoadenylate synthetase gene family. *J. Interferon Cytokine Res.* 22: 981-993.

CHROMOSOMAL LOCATION

Genetic locus: OAS2 (human) mapping to 12q24.13.

SOURCE

OAS2 (C-1) is a mouse monoclonal antibody raised against amino acids 1-180 mapping at the N-terminus of OAS2 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-374238 X, 200 μ g/0.1 ml.

APPLICATIONS

OAS2 (C-1) is recommended for detection of OAS2 p69 and p71 isoforms of 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) 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 shRNA Plasmid (h): sc-61243-SH and OAS2 shRNA (h) Lentiviral Particles: sc-61243-V.

OAS2 (C-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

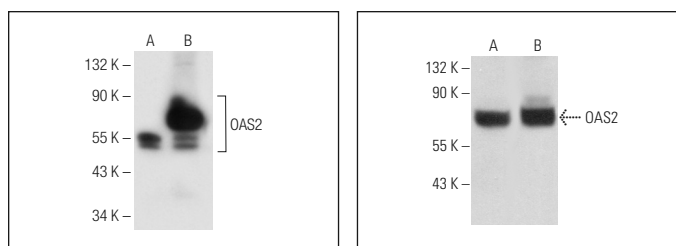
Molecular Weight of OAS2: 69 kDa.

Positive Controls: OAS2 (h): 293T Lysate: sc-116044, Jurkat whole cell lysate: sc-2204 or BJAB whole cell lysate: sc-2207.

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.

DATA



OAS2 (C-1): sc-374238. Western blot analysis of OAS2 expression in non-transfected: sc-117752 (A) and human OAS2 transfected: sc-116044 (B) 293T whole cell lysates.

OAS2 (C-1): sc-374238. Western blot analysis of OAS2 expression in Jurkat (A) and BJAB (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yin, H., et al. 2019. IFN- γ restores the impaired function of RNase L and induces mitochondria-mediated apoptosis in lung cancer. *Cell Death Dis.* 10: 642.
2. Manivannan, P., et al. 2020. RNase L amplifies interferon signaling by inducing PKR-mediated antiviral stress granules. *J. Virol.* 94: e00205-20.
3. Bouvet, M., et al. 2021. Multiple viral microRNAs regulate interferon release and signaling early during infection with Epstein-Barr virus. *MBio* 12: e03440-20.

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.

PROTOCOLS

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