

# OAS2 (W-16): sc-49863

## 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, maps to human chromosome 12q24. OAS2 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

- Corrias, M.V., Gribaudo, G., Guarnaccia, F. and Ponzoni, M. 1995. Induction of 2.5 OAS gene expression and activity is not sufficient for IFN- $\gamma$ -induced neuroblastoma cell differentiation. *Int. J. Cancer* 62: 223-229.
- Hartmann, R., Walko, G. and Justesen, J. 2001. Inhibition of 2'- 5'- oligoadenylate synthetase by divalent metal ions. *FEBS Lett.* 507: 54-58.
- Kakuta, S., Shibata, S. and Iwakura, Y. 2002. Genomic structure of the mouse 2'- 5'- oligoadenylate synthetase gene family. *J. Interferon Cytokine Res.* 22: 981-993.
- Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603350. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Esildsen, S., Justesen, J., Schierup, M.H. and Hartmann, R. 2003. Characterization of the 2'- 5'- oligoadenylate synthetase ubiquitin-like family. *Nucleic Acids Res.* 31: 3166-3173.
- Nakajima, H., Shimomura, H., Iwasaki, Y., Ikeda, F., Umeoka, F., Chengyu, P., Taniguchi, H., Ohnishi, Y., Takagi, S.J., Fujioka, S. and Shiratori, Y. 2003. Anti-viral actions and viral dynamics in the early phase of three different regimens of interferon treatment for chronic hepatitis C: differences between the twice-daily administration of interferon- $\beta$  treatment and the combination therapy with interferon- $\alpha$  plus ribavirin. *Acta Med. Okayama* 57: 217-225.
- Torshin, I.Y. 2005. Three-dimensional models of human 2'- 5'- oligoadenylate synthetases: a new computational method for reconstructing an enzyme assembly. *Med. Sci. Monit.* 11: 235-247.

## CHROMOSOMAL LOCATION

Genetic locus: OAS2 (human) mapping to 12q24.2; Oas2 (mouse) mapping to 5 F.

## SOURCE

OAS2 (W-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of OAS2 p71 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG 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-49863 X, 200  $\mu$ g/0.1 ml.

Blocking peptide available for competition studies, sc-49863 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

OAS2 (W-16) is recommended for detection of OAS2 p69 and p71 isoforms of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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 (W-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of OAS2: 69 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **OAS2 (G-9): sc-271117** or **OAS2 (C-1): sc-374238**, our highly recommended monoclonal alternatives to OAS2 (W-16).