SANTA CRUZ BIOTECHNOLOGY, INC.

OAS3 (D-7): sc-398225

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, apoptosis and growth, and its members are important factors in viral infection resistance. OAS3, also referred to as p100, contains three adjacent OAS1-like domains and maps to the human chromosome 12q24.2.

REFERENCES

1. Hovanessian, A.G., et al. 1987. Identification of 69 kDa and 100 kDa forms of 2-5A synthetase in interferon-treated human cells by specific monoclonal antibodies. EMBO J. 6: 1273-1280.
2. 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.
3. Hovnanian, A., et al. 1998. The human 2'-5'-oligoadenylate synthetase locus is composed of three distinct genes clustered on chromosome 12q24.2 encoding the 100, 69, and 40 kDa forms. Genomics 52: 267-277.
4. Eskildsen, S., et al. 2002. Gene structure of the murine 2'-5'-oligoadenylate synthetase family. Cell. Mol. Life Sci. 59: 1212-1222.

CHROMOSOMAL LOCATION

Genetic locus: Oas3 (mouse) mapping to 5 F.

SOURCE

OAS3 (D-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of OAS3 of mouse 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-398225 X, 200 µg/0.1 ml.

OAS3 (D-7) is available conjugated to agarose (sc-398225 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398225 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398225 PE), fluorescein (sc-398225 FITC), Alexa Fluor® 488 (sc-398225 AF488), Alexa Fluor® 546 (sc-398225 AF546), Alexa Fluor® 594 (sc-398225 AF594) or Alexa Fluor® 647 (sc-398225 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398225 AF680) or Alexa Fluor® 790 (sc-398225 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398225 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

OAS3 (D-7) is recommended for detection of OAS3 of mouse and rat 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).

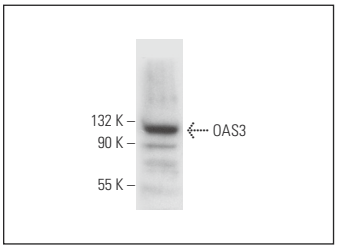
Suitable for use as control antibody for OAS3 siRNA (m): sc-61246, OAS3 shRNA Plasmid (m): sc-61246-SH and OAS3 shRNA (m) Lentiviral Particles: sc-61246-V.

OAS3 (D-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

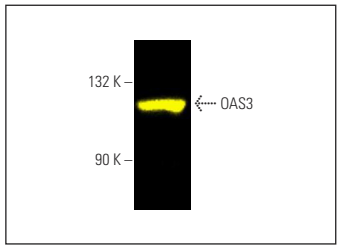
Molecular Weight of OAS3: 100 kDa.

Positive Controls: AMJ2-C8 whole cell lysate: sc-364366 or RAW 264.7 whole cell lysate: sc-2211.

DATA



OAS3 (D-7): sc-398225. Western blot analysis of OAS3 expression in AMJ2-C8 whole cell lysate.



OAS3 (D-7) Alexa Fluor® 488: sc-398225 AF488. Direct fluorescent western blot analysis of OAS3 expression in RAW 264.7 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Birdwell, L.D., et al. 2016. Activation of RNase L by murine coronavirus in myeloid cells is dependent on basal OAS gene expression and independent of virus-induced interferon. J. Virol. 90: 3160-3172.
2. Li, Y. and Weiss, S.R. 2016. Antagonism of RNase L is required for murine coronavirus replication in kupffer cells and liver sinusoidal endothelial cells but not in hepatocytes. J. Virol. 90: 9826-9832.
3. Paget, M., et al. 2023. Stress granules are shock absorbers that prevent excessive innate immune responses to dsRNA. Mol. Cell 83: 1180-1196.e8.

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.