SANTA CRUZ BIOTECHNOLOGY, INC.

Oas1a (E-2): sc-365072

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The 2'-, 5'-oligoadenylate synthetases (OASs) are interferon-induced proteins that play a putative role in mediating resistance to virus infection, control of cell growth, differentiation and apoptosis. OAS1, which functions as a homo-tetramer, is characterized by its capacity to catalyze the synthesis of 2'-, 5'-oligomers of adenosine (2-5As). OAS1 binds double-stranded RNA and polymerizes ATP into PPP(A2'P5'A)N oligomers, activating latent RNase L which, when activated, cleaves single-stranded RNAs. This RNase L activity leads to the inhibition of cellular protein synthesis and the impairment of viral replication. OAS1, a 400 amino acid containing protein, is also important in evaluating the interferon response in RNAi studies, and is implicated in diabetes mellitus susceptibility. Oas1a is one of the known rodent homologs of human OAS1, which are thought to mediate cell growth, differentiation and apoptosis, as well as host resistance to viral infection.

CHROMOSOMAL LOCATION

Genetic locus: Oas1a (mouse) mapping to 5 F.

SOURCE

Oas1a (E-2) is a mouse monoclonal antibody raised against amino acids 308-367 mapping at the C-terminus of Oas1a of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-365072 X, 200 µg/0.1 ml.

Oas1a (E-2) is available conjugated to agarose (sc-365072 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365072 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365072 PE), fluorescein (sc-365072 FITC), Alexa Fluor® 488 (sc-365072 AF488), Alexa Fluor® 546 (sc-365072 AF546), Alexa Fluor® 594 (sc-365072 AF594) or Alexa Fluor® 647 (sc-365072 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365072 AF680) or Alexa Fluor® 790 (sc-365072 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Oas1a (E-2) is recommended for detection of Oas1a 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), 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 Oas1a siRNA (m): sc-150140, Oas1a shRNA Plasmid (m): sc-150140-SH and Oas1a shRNA (m) Lentiviral Particles: sc-150140-V.

Oas1a (E-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

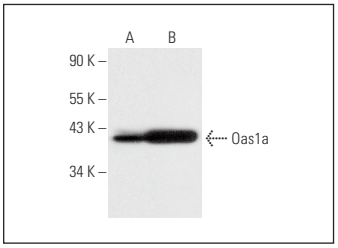
Molecular Weight of Oas1a: 46 kDa.

Positive Controls: mouse brain extract: sc-2253 or BC_3H1 cell lysate: sc-2299.

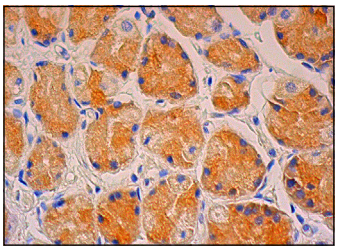
STORAGE

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

DATA



Oas1a (E-2): sc-365072. Western blot analysis of Oas1a expression in BC_3H1 whole cell lysate (**A**) and mouse brain tissue extract (**B**).



Oas1a (E-2): sc-365072. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lower stomach tissue showing cytoplasmic staining of glandular cells.

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. Wu, H., et al. 2017. Mouse testicular cell type-specific antiviral response against mumps virus replication. Front. Immunol. 8: 117.
4. Rubino, S.J., et al. 2018. Acute microglia ablation induces neurodegeneration in the somatosensory system. Nat. Commun. 9: 4578.
5. Wang, F., et al. 2020. Roles of sialic acid, AXL, and MER receptor tyrosine kinases in mumps virus infection of mouse sertoli and leydig cells. Front. Microbiol. 11: 1292.
6. Churin, Y., et al. 2021. Lipid storage and interferon response determine the phenotype of ground glass hepatocytes in mice and humans. Cell. Mol. Gastroenterol. Hepatol. 12: 383-394.
7. Wang, Q., et al. 2021. Differential effects of viral nucleic acid sensor signaling pathways on testicular sertoli and leydig cells. Endocrinology 162: bqab180.

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.