

ISYNA1 (C-8): sc-377245

BACKGROUND

Myo-inositol is an important constituent of membrane phospholipids and is a precursor for the phosphoinositide signaling pathway. ISYNA1 (inositol-3-phosphate synthase 1), also known as IPS, INO1 or INOS, is a 558 amino acid enzyme belonging to the myo-inositol-1-phosphate synthase family. Highly expressed in testis, ovary, heart, placenta and pancreas, with weak expression in blood leukocytes, thymus, skeletal muscle and colon, SYNA1 is the key enzyme myo-inositol biosynthesis, as it catalyzes the conversion of glucose 6-phosphate to 1-myo-inositol 1-phosphate in a NAD-dependent manner. ISYNA1 is the rate-limiting enzyme in the synthesis of all inositol-containing compounds. ISYNA1 may be upregulated by E2F-1, and is inhibited by valproate (VPA) and lithium, which are mood-stabilizing drugs.

CHROMOSOMAL LOCATION

Genetic locus: ISYNA1 (human) mapping to 19p13.11; Isyna1 (mouse) mapping to 8 B3.3.

SOURCE

ISYNA1 (C-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 219-253 within an internal region of ISYNA1 of human 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.

Blocking peptide available for competition studies, sc-377245 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

ISYNA1 (C-8) is recommended for detection of ISYNA1 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).

ISYNA1 (C-8) is also recommended for detection of ISYNA1 in additional species, including canine and bovine.

Suitable for use as control antibody for ISYNA1 siRNA (h): sc-97862, ISYNA1 siRNA (m): sc-146305, ISYNA1 shRNA Plasmid (h): sc-97862-SH, ISYNA1 shRNA Plasmid (m): sc-146305-SH, ISYNA1 shRNA (h) Lentiviral Particles: sc-97862-V and ISYNA1 shRNA (m) Lentiviral Particles: sc-146305-V.

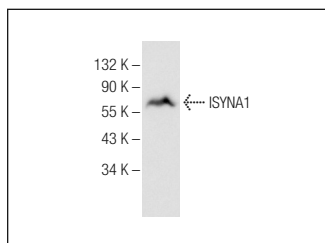
Molecular Weight of ISYNA1: 62 kDa.

Positive Controls: A549 cell lysate: sc-2413 or Y79 cell lysate: sc-2240.

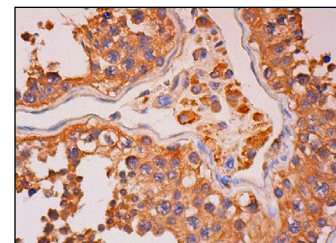
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ISYNA1 (C-8): sc-377245. Western blot analysis of ISYNA1 expression in Y79 whole cell lysate.



ISYNA1 (C-8): sc-377245. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

SELECT PRODUCT CITATIONS

1. Kalujnaia, S., et al. 2016. Myo-inositol phosphate synthase expression in the European eel (*Anguilla anguilla*) and Nile tilapia (*Oreochromis niloticus*): effect of seawater acclimation. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 311: R287-R298.

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.