SANTA CRUZ BIOTECHNOLOGY, INC.

INDOL1 (C-9): sc-374159

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Tryptophan is an essential amino acid that is necessary for protein synthesis, serotonin and melatonin biosynthesis and energy production; energy being a product of the catabolism of tryptophan through the kynurenine pathway. The kynurenine pathway has many downstream metabolites which may be a part of physiological or patho-physiological processes. INDOL1 (indoleamine 2,3-dioxygenase-like protein 1) is an enzyme that catalyzes the first step of the kynurenine pathway of tryptophan metabolism. INDOL1 is also known as IDO2 (indoleamine 2,3-dioxygenase 2) and is a 407 amino acid protein that is expressed in various tissues, including liver, small intestine, spleen, placenta, thymus, lung, brain, kidney, colon and dendritic cells. INDOL1 is selectively inhibited by D-1MT (1-methyl-d-tryptophan), which also inhibits IDO (indoleamine 2,3-dioxygenase) and is significant because IDO expression causes suppression of T cell responses to tumors in dendritic cells. The inhibition of INDOL1 by D-1MT suggests a common function in immunomodulation. In the human INDOL1 gene, two single nucleotide polymorphisms have been detected which abolish the enzymatic function of INDOL1.

CHROMOSOMAL LOCATION

Genetic locus: Ido2 (mouse) mapping to 8 A2.

SOURCE

INDOL1 (C-9) is a mouse monoclonal antibody raised against amino acids 261-370 mapping near the C-terminus of INDOL1 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.

INDOL1 (C-9) is available conjugated to agarose (sc-374159 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374159 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374159 PE), fluorescein (sc-374159 FITC), Alexa Fluor® 488 (sc-374159 AF488), Alexa Fluor® 546 (sc-374159 AF546), Alexa Fluor® 594 (sc-374159 AF594) or Alexa Fluor® 647 (sc-374159 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374159 AF680) or Alexa Fluor® 790 (sc-374159 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

INDOL1 (C-9) is recommended for detection of INDOL1 of mouse 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 INDOL1 siRNA (m): sc-146235, INDOL1 shRNA Plasmid (m): sc-146235-SH and INDOL1 shRNA (m) Lentiviral Particles: sc-146235-V.

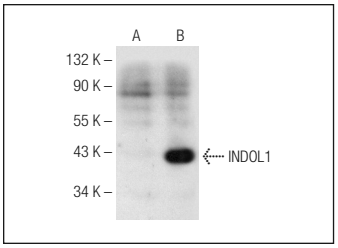
Molecular Weight of INDOL1: 45 kDa.

Positive Controls: INDOL1 (m): 293T Lysate: sc-121063.

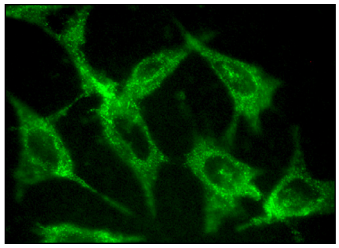
RECOMMENDED SUPPORT REAGENTS

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.

DATA



INDOL1 (C-9): sc-374159. Western blot analysis of INDOL1 expression in non-transfected: sc-117752 (**A**) and mouse INDOL1 transfected: sc-121063 (**B**) 293T whole cell lysates.



INDOL1 (C-9): sc-374159. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Jusof, F.F., et al. 2017. Investigation of the tissue distribution and physiological roles of indoleamine 2,3-dioxygenase-2. Int. J. Tryptophan Res. 10: 1178646917735098.
2. Spinelli, P., et al. 2019. Identification of the novel IDO1 imprinted locus and its potential epigenetic role in pregnancy loss. Hum. Mol. Genet. 28: 662-674.
3. Liu, Y., et al. 2020. Silencing IDO2 in dendritic cells: a novel strategy to strengthen cancer immunotherapy in a murine lung cancer model. Int. J. Oncol. 57: 587-597.
4. Clement, C.C., et al. 2021. 3-hydroxy-L-kynurenamine is an immunomodulatory biogenic amine. Nat. Commun. 12: 4447.

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.