SANTA CRUZ BIOTECHNOLOGY, INC.

IDO (E-1): sc-376413

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Indoleamine 2,3-dioxygenase (IDO) is an IFN-γ inducible enzyme that catalyzes the degradation of the essential amino acid L-tryptophan to N-formylkynurenine. The gene encoding human IDO maps to chromosome 8p11.21. IDO, also known as INDO, is an important modulator of immunological responses and protects allogeneic concepti from alloreactive maternal lymphocytes. IDO mediates an interesting inhibitory effect of HeLa cells co-cultured with human PBLs. The ILN-2-induced proliferation response of PBLs is diminished in the presence of HeLa cells while an IDO inhbitor negates this effect. Flow cytometric analysis indicates both mature and immature CD123-positive dentritic cells suppress T cell activity using IDO. IDO-transfected cells co-cultured with T cells reduces T cell proliferation. Additionally, adopted transfer of donor T cells reduces donor T cell numbers in IDO-transgenic mice. The pharmacological or genetic manipulation of IDO may be useful for supressing undesirable T cell response.

REFERENCES

1. Dai, W. and Gupta, S.L. 1990. Molecular cloning, sequencing and expression of human interferon-γ-inducible indoleamine 2,3-dioxygenase cDNA. Biochem. Biophys. Res. Commun. 168: 1-8.
2. Najfeld, V., et al. 1993. Localization of indoleamine 2,3-dioxygenase gene (INDO) to chromosome 8p12→p11 by fluorescent *in situ* hybridization. Cytogenet. Cell Genet. 64: 231-232.
3. Munn, D.H., et al. 1998. Prevention of allogeneic fetal rejection by tryptophan catabolism. Science 281: 1191-1193.

CHROMOSOMAL LOCATION

Genetic locus: IDO1 (human) mapping to 8p11.21; Ido1 (mouse) mapping to 8 A2.

SOURCE

IDO (E-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 361-399 near the C-terminus of IDO of mouse 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.

IDO (E-1) is available conjugated to agarose (sc-376413 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376413 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376413 PE), fluorescein (sc-376413 FITC), Alexa Fluor® 488 (sc-376413 AF488), Alexa Fluor® 546 (sc-376413 AF546), Alexa Fluor® 594 (sc-376413 AF594) or Alexa Fluor® 647 (sc-376413 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376413 AF680) or Alexa Fluor® 790 (sc-376413 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376413 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

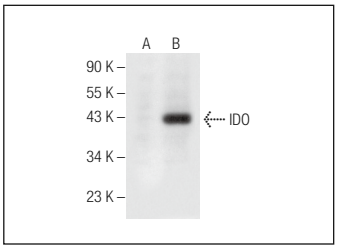
IDO (E-1) is recommended for detection of IDO of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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).

Suitable for use as control antibody for IDO siRNA (h): sc-45939, IDO siRNA (m): sc-41530, IDO shRNA Plasmid (h): sc-45939-SH, IDO shRNA Plasmid (m): sc-41530-SH, IDO shRNA (h) Lentiviral Particles: sc-45939-V and IDO shRNA (m) Lentiviral Particles: sc-41530-V.

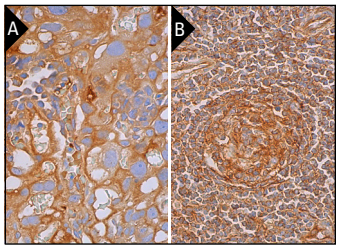
Molecular Weight of IDO: 42 kDa.

Positive Controls: RAW 264.7 + IFN-γ cell lysate: sc-2259, IDO (m): 293T Lysate: sc-120945 or mouse placenta extract: sc-364247.

DATA



IDO (E-1): sc-376413. Western blot analysis of IDO expression in non-transfected: sc-117752 (**A**) and mouse IDO transfected: sc-120945 (**B**) 293T whole cell lysates.



IDO (E-1): sc-376413. Immunoperoxidase staining of formalin fixed, paraffin-embedded rat placenta tissue showing cytoplasmic staining of trophoblastic cells and decidual cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic staining of cells in germinal center and cells in non-germinal center (**B**).

SELECT PRODUCT CITATIONS

1. Stift, J., et al. 2022. Immune checkpoints and liver resection after neoadjuvant chemotherapy including bevacizumab in patients with microsatellite-stable colorectal liver metastases. HPB 24: 40-46.
2. Itoh, G., et al. 2022. Cancer-associated fibroblasts educate normal fibroblasts to facilitate cancer cell spreading and T cell suppression. Mol. Oncol. 16: 166-187.

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.