

# IDO (mIDO-48): sc-53978

## BACKGROUND

Indoleamine 2,3-dioxygenase (IDO) is an IFN- $\gamma$  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 inhibitor negates this effect. Flow cytometric analysis indicates both mature and immature CD123-positive dendritic 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 suppressing undesirable T cell response.

## REFERENCES

- Dai, W. and Gupta, S.L. 1990. Molecular cloning, sequencing and expression of human interferon- $\gamma$ -inducible indoleamine 2,3-dioxygenase cDNA. *Biochem. Biophys. Res. Commun.* 168: 1-8.
- 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.
- 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 (mIDO-48) is a rat monoclonal antibody raised against recombinant full length IDO of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IDO (mIDO-48) is available conjugated to agarose (sc-53978 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53978 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53978 PE), fluorescein (sc-53978 FITC), Alexa Fluor<sup>®</sup> 488 (sc-53978 AF488), Alexa Fluor<sup>®</sup> 546 (sc-53978 AF546), Alexa Fluor<sup>®</sup> 594 (sc-53978 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-53978 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-53978 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-53978 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

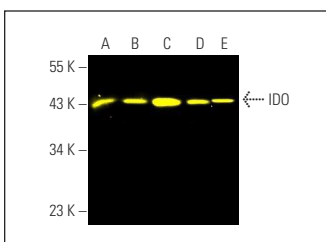
IDO (mIDO-48) is recommended for detection of IDO of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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.

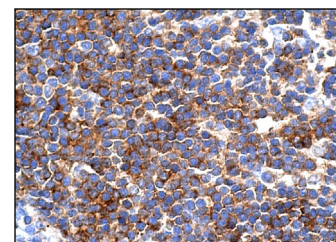
Molecular Weight of IDO: 42 kDa.

Positive Controls: Neuro-2A whole cell lysate: sc-364185, HeLa whole cell lysate: sc-2200 or L6 whole cell lysate: sc-364196.

## DATA



IDO (mIDO-48) Alexa Fluor<sup>®</sup> 488: sc-53978 AF488. Direct fluorescent western blot analysis of IDO expression in Neuro-2A (A), MOLT-4 (B), L6 (C), A549 (D) and HeLa (E) whole cell lysates. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214.



IDO (mIDO-48): sc-53978. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic staining of non-germinal center cells.

## SELECT PRODUCT CITATIONS

- Dobos, N., et al. 2012. The role of indoleamine 2,3-dioxygenase in a mouse model of neuroinflammation-induced depression. *J. Alzheimers Dis.* 28: 905-915.
- Masaki, A., et al. 2015. Prognostic significance of tryptophan catabolism in adult T-cell leukemia/lymphoma. *Clin. Cancer Res.* 21: 2830-2839.
- Shaw, E.J., et al. 2017. Intestinal epithelial suppressor of cytokine signaling 3 (SOCS3) impacts on mucosal homeostasis in a model of chronic inflammation. *Immun. Inflamm. Dis.* 5: 336-345.
- Spinelli, P., et al. 2018. Identification of the novel IDO1 imprinted locus and its potential epigenetic role in pregnancy loss. *Hum. Mol. Genet.* 28: 662-674.
- Koo, Y.S., et al. 2018. Indoleamine 2,3-dioxygenase-dependent neurotoxic kynurenine metabolism contributes to poststroke depression induced in mice by ischemic stroke along with spatial restraint stress. *Oxid. Med. Cell. Longev.* 2018: 2413841.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.