Revision 1

Store at -20C

#12006

IDO Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H	Endogenous	43	Rabbit	#P14902	3620

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

IDO Antibody recognizes endogenous levels of total IDO protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human IDO protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

INDO/IDO1/indoleamine 2,3-dioxygenase (IDO) is an IFN-γ-inducible enzyme that catalyzes the rate-limiting step of tryptophan degradation (1). IDO is upregulated in many tumors and in dendritic cells in tumor-draining lymph nodes. Elevated tryptophan catabolism in these cells leads to tryptophan starvation of T cells, limiting T cell proliferation and activation (2). Therefore, IDO is considered an immunosuppresive molecule, and research studies have shown that upregulation of IDO is a mechanism of cancer immune evasion (3). The gastrointestinal stromal tumor drug, imatinib, was found to act, in part, by reducing IDO expression, resulting in increased $CD8^+$ T cell activation and induction of apoptosis in regulatory T cells (4). In addition to its enzymatic activity, IDO was recently shown to have signaling capability through an immunoreceptor tyrosine-based inhibitory motif (ITIM) that is phosphorylated by Fyn in response to TGF-β. This leads to recruitment of SHP-1 and activation of the noncanonical NF-κB pathway (5).

Background References

1. Yasui, H. et al. (1986) *Proc Natl Acad Sci U S A* 83, 6622-6.
2. Mellor, A.L. et al. (2003) *Adv Exp Med Biol* 527, 27-35.
3. Prendergast, G.C. (2008) *Oncogene* 27, 3889-900.
4. Balachandran, V.P. et al. (2011) *Nat Med* 17, 1094-100.
5. Pallotta, M.T. et al. (2011) *Nat Immunol* 12, 870-8.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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Limited Uses

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