

## IDO1 Protein, Human, Recombinant (His)

### General Information

Synonyms:	IDO; indoleamine 2,3-dioxygenase 1; Indoleamine 2,3-dioxygenase; INDO; IDO-1
Protein Construction:	A DNA sequence encoding the human IDO1 (P14902-1) (Ala 2-Gly 403) was expressed, with a polyhistidine tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	P14902-1
Molecular Weight:	46 kDa (predicted); 44 kDa (reducing conditions)

### QC Testing

Biological Activity:	Measured by its ability to oxidize L-tryptophan to N-formylkynurenine. The specific activity is > 400 pmoles/min/ $\mu$ g.
Purity:	> 88 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Supplied as sterile 50 mM Tris, 0.15M NaCl, 10% glycerol, pH 8.0.

### Preparation and Storage

#### Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

It is recommended to store the product under sterile conditions at  $-20^{\circ}\text{C}$  to  $-80^{\circ}\text{C}$ . Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

Proteins are shipped with blue ice.

### Protein Background

Indoleamine 2,3-dioxygenase-1, also known as Indoleamine-pyrrole 2,3-dioxygenase, IDO1, and IDO, is a member of the indoleamine 2,3-dioxygenase family. IDO1 / IDO and tryptophan 2,3-dioxygenase (TDO) are tryptophan-degrading enzymes that catalyze the first step in tryptophan catabolism via the kynurenine pathway. TDO is widely distributed in both eukaryotes and bacteria. In contrast, IDO has been found only in mammals and yeast. In 27, a third enzyme, indoleamine 2,3-dioxygenase-2 (IDO2), was discovered. IDO2 is found not only in mammals but also in lower vertebrates. IDO1 / IDO is an immunosuppressive molecule inducible in various cells. IDO1 / IDO catalyzes the cleavage of the pyrrole ring of tryptophan and incorporates both atoms of a molecule of oxygen. It mediates oxidative cleavage of tryptophan, an amino acid essential for cell proliferation and survival.

IDO1 / IDO inhibition is proposed to have therapeutic potential in immunodeficiency-associated abnormalities, including cancer. The IDO pathway is activated in multiple tumor types. Selective inhibition of IDO1 may represent an attractive cancer therapeutic strategy via up-regulation of cellular immunity. IDO1 / IDO is an enzyme that suppresses adaptive T-cell immunity by catabolizing tryptophan from the cellular microenvironment. Inhibition of IDO pathway might enhance the efficacy of immunotherapeutic strategies for cancer. Cancer Immunotherapy Co-inhibitory Immune Checkpoint Targets Immune Checkpoint Immune Checkpoint Detection: ELISA Antibodies Immunotherapy Targeted Therapy

### Reference

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