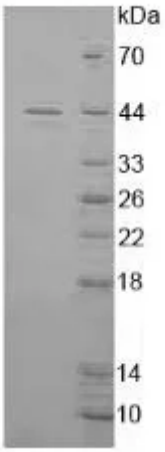
Active Indoleamine-2,3-Dioxygenase (IDO)

Catalog#:PEH12699

概述（Summary）

别称（Alternative Names）	CD107B; INDO; Indoleamine-Pyrrole 2,3 Dioxygenase
纯度（Purity）	Greater than 97% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Ala2-Gly403】
Accession #	P14902
表达宿主（Host）	E.coli
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	46.7 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of 20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA, 1mM DTT, 0.01%skl, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	Catalyzes the first and rate limiting step of the catabolism of the essential amino acid tryptophan along the kynurenine pathway. Involved in the peripheral immune tolerance, contributing to maintain homeostasis by preventing autoimmunity or immunopathology that would result from uncontrolled and overreacting immune responses. Tryptophan shortage inhibits T lymphocytes division and accumulation of tryptophan catabolites induces T-cell apoptosis and differentiation of regulatory T-cells. Acts as a suppressor of anti-tumor immunity. Limits the growth of intracellular pathogens by depriving tryptophan. Protects the fetus from maternal immune rejection.

电泳图（SDS-PAGE image）



Greater than 97% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

$$\text{Specific Activity (pmol/min/ug)} = \frac{\text{Adjusted } V_{max}^{*} \text{ (OD/min) x well volume (L) x } 10^{12} \text{ pmol/mol}}{\text{ext. coeff}^{**} \text{ (M}^{-1}\text{cm}^{-1}\text{) x path corr.}^{***} \text{ (cm) x amount of enzyme (ug)}}$$

*Adjusted for Substrate Blank
**Using the extinction coefficient 3750 $M^{-1}cm^{-1}$
***Using the path correction 1 cm

IDO (Indoleamine 2,3-dioxygenase 1) is a heme enzyme that catalyzes the first and rate-limiting step in tryptophan catabolism to N-formyl-kynurenine. This enzyme acts on multiple tryptophan substrates including D-tryptophan, L-tryptophan, 5-hydroxy-tryptophan, tryptamine, and serotonin. Thus, bioactivity of recombinant human IDO was measured through its ability to oxidize L-tryptophan to N-formyl-kynurenine, using Methylene Blue as indicator. The reaction was performed in 50 mM MES, pH 6.5 (Assay Buffer), initiated by addition 50 µL of various concentrations of IDO (diluted by Assay Buffer) to 50 µL substrate mixture of 800 µM L-tryptophan, 9000 units/mL catalase （RPC418Hu05）, and 40 µM Methyene Blue in assay buffer with equal volume of 80 mM ascorbic acid in 0.405 M Tris, pH 8.0. The final well serves as a negative control with no IDO, replaced with 50µL assay buffer. The absorbance was read in 321 nm in kinetic mode for 5 minutes. The result indicated that recombinant human IDO can oxidize L-tryptophan, the specific activity is 10581 pmol/min/µg.

注意事项（Note）

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