

Cyclophilin A Protein, Mouse (tag free)

Cat. No.:	HY-P70007A
Synonyms:	rMuPeptidyl-prolyl cis-trans isomerase A/Cyclophilin A; Peptidyl-prolyl cis-trans isomerase A; PPIase A; Cyclophilin A; Cyclosporin A-binding protein; Rotamase A; SP18; PPIA; CYPA
Species:	Mouse
Source:	E. coli
Accession:	P17742 (M1-L164)
Gene ID:	268373
Molecular Weight:	approximately 18.07 kDa

PROPERTIES

AA Sequence	<p>M V N P T V F F D I T A D D E P L G R V S F E L F A D K V P K T A E N F R A L S</p> <p>T G E K G F G Y K G S S F H R I I P G F M C Q G G D F T R H N G T G G R S I Y G</p> <p>E K F E D E N F I L K H T G P G I L S M A N A G P N T N G S Q F F I C T A K T E</p> <p>W L D G K H V V F G K V K E G M N I V E A M E R F G S R N G K T S K K I T I S D</p> <p>C G Q L</p>
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Cyclophilin A catalyzes the cis-trans isomerization of proline imidic peptide bonds, exerting a potent chemotactic effect on leukocytes through the activation of its membrane receptor BSG/CD147 and initiating a signaling cascade culminating in MAPK/ERK activation. This protein activates endothelial cells (ECs) in a pro-inflammatory manner by stimulating NF-κappa-B and MAP-kinase signaling, inducing the expression of adhesion molecules like SELE and VCAM1. Moreover, Cyclophilin A induces apoptosis in ECs by promoting FOXO1-dependent expression of CCL2 and BCL2L11. In response to oxidative stress,
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it initiates both proapoptotic and antiapoptotic signaling pathways in ECs through NF-kappa-B activation, AKT1 up-regulation, and BCL2 induction. It negatively regulates MAP3K5/ASK1 kinase activity and is essential for the assembly of TARDBP in heterogeneous nuclear ribonucleoprotein complexes, thereby influencing TARDBP binding to RNA and the expression of HDAC6, ATG7, and VCP, crucial for protein aggregate clearance. Cyclophilin A also plays a pivotal role in platelet activation and aggregation, regulates calcium mobilization, integrin ITGA2B:ITGB3 bidirectional signaling, and binds heparan sulfate glycosaminoglycans.

Caution: Product has not been fully validated for medical applications. For research use only.

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