

## CD3 delta Protein, Cynomolgus (HEK293, His)

Cat. No.:	HY-P72728
Synonyms:	T-cell surface glycoprotein CD3 delta chain; T-cell receptor T3 delta chain; CD3d; CD3D
Species:	Cynomolgus
Source:	HEK293
Accession:	Q95LI8 (F22-A105)
Gene ID:	102133701
Molecular Weight:	20-35 kDa

### PROPERTIES

AA Sequence	F K I P V E E L E D    R V F V K C N T S V    T W V E G T V G T L    L T N N T R L D L G K R I L D P R G I Y    R C N G T D I Y K D    K E S A V Q V H Y R    M C Q N C V E L D P A T L A
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, 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 <sub>2</sub> 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	<p>CD3 delta Protein, an integral component of the TCR-CD3 complex on the surface of T-lymphocytes, is crucial for the adaptive immune response. Upon activation by antigen-presenting cells (APCs), the T-cell receptor (TCR) transmits signals through CD3 chains, including CD3D, CD3E, CD3G, and CD3Z, each containing immunoreceptor tyrosine-based activation motifs (ITAMs) in their cytoplasmic domains. When engaged by the TCR, these motifs undergo phosphorylation by Src family protein tyrosine kinases LCK and FYN, initiating downstream signaling pathways. Beyond its role in signal transduction for T-cell activation, CD3D is indispensable for thymocyte differentiation, contributing to the accurate assembly and surface expression of the TCR-CD3 complex. In the absence of a functional TCR-CD3 complex, thymocytes struggle with proper differentiation. CD3D interacts with CD4 and CD8, establishing a functional link between the TCR and coreceptors CD4 and CD8, essential for the activation and positive selection of CD4 or CD8 T-cells. The TCR-CD3 complex consists of CD3D/CD3E</p>
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and CD3G/CD3E heterodimers, forming TCRalpha/CD3E/CD3G and TCRbeta/CD3G/CD3E trimers. This hexamer interacts with CD3Z homodimers, forming the complete TCR-CD3 complex. Alternatively, TCRalpha and TCRbeta can be substituted by TCRgamma and TCRdelta. CD3D's intricate interactions underscore its pivotal role in orchestrating T-cell responses.

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

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