CD3 epsilon Protein, Mouse (P.pastoris, His)

Cat. No.:	HY-P71723
Synonyms:	Cd3eT-cell surface glycoprotein CD3 epsilon chain; T-cell surface antigen T3/Leu-4 epsilon chain; CD antigen CD3e
Species:	Mouse
Source:	P. pastoris
Accession:	P22646 (D23-D108)
Gene ID:	12501
Molecular Weight:	Approximately 11.9 kDa

PROPERTIES

AA Sequence	D A E N I E Y K V S I S G T S V E L T C P L D S D E N L K W E K N G Q E L P Q K H D K H L V L Q D F S E V E D S G Y Y V C Y T P A S N K N T Y L Y L K A R V C E Y C V E V D
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm sterile filtered PBS, 6% Trehalose, pH 7.4
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
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	The CD3 epsilon protein is an integral part of the TCR-CD3 complex located on the surface of T-lymphocytes, playing a crucial role in adaptive immune responses. Upon activation of the T-cell receptor (TCR) by antigen-presenting cells (APCs), CD3E, alongside CD3D, CD3G, and CD3Z, facilitates the transmission of TCR-mediated signals across the cell membrane. All CD3 chains contain immunoreceptor tyrosine-based activation motifs (ITAMs) in their cytoplasmic domain, which, upon phosphorylation by LCK and FYN kinases, triggers downstream signaling pathways. Beyond its role in signal transduction for T-cell activation, CD3E is indispensable for proper T-cell development. Additionally, it participates in the internalization and cell surface down-regulation of TCR-CD3 complexes through endocytosis sequences present in its cytosolic region. The TCR-CD3 complex comprises CD3D/CD3E and CD3G/CD3E heterodimers that preferentially associate with TCRalpha and TCRbeta, forming trimers. The hexamer interacts with CD3Z homodimer, completing the TCR-CD3 complex. Alternatively, TCRalpha and TCRbeta can be replaced by TCRgamma and TCRdelta. CD3E also interacts with CD6 and NCK1. This

	comprehensive network underscores the multifaceted role of CD3E in orchestrating T-cell responses.

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