

CD3 gamma Protein, Human (HEK293, Fc)

Cat. No.:	HY-P78753
Synonyms:	CD3G; CD3-GAMMA; IMD17; T3G; TCR gamma
Species:	Human
Source:	HEK293
Accession:	P09693 (Q23-S116)
Gene ID:	917
Molecular Weight:	45-55 kDa

PROPERTIES

Appearance	Lyophilized powder
Formulation	Lyophilized a 0.22 µm filtered solution of 20 mM Tris-HCl, 0.15 M NaCl, 6% Trehalose, pH 8.0.
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	<p>CD3 gamma, an integral component of the TCR-CD3 complex on the T-lymphocyte cell surface, is pivotal in the adaptive immune response. As antigen-presenting cells (APCs) activate the T-cell receptor (TCR), CD3 gamma, along with other CD3 chains (CD3D, CD3E, and CD3Z), facilitates the transmission of TCR-mediated signals across the cell membrane. With immunoreceptor tyrosine-based activation motifs (ITAMs) in its cytoplasmic domain, CD3 gamma undergoes phosphorylation by Src family protein tyrosine kinases LCK and FYN upon TCR engagement, activating downstream signaling pathways. Beyond its role in signal transduction, CD3 gamma plays a crucial role in dynamically regulating TCR expression at the cell surface. Constitutive TCR cycling relies on the di-leucine-based (diL) receptor-sorting motif present in CD3 gamma. The TCR-CD3 complex comprises CD3D/CD3E and CD3G/CD3E heterodimers, which preferentially associate with TCRalpha and TCRbeta, forming trimers that interact with CD3Z homodimers to complete the hexameric TCR-CD3 complex. Alternatively, TCRalpha and TCRbeta can be replaced by TCRgamma and TCRdelta, showcasing the versatility of CD3 gamma in TCR assembly and functionality.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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