

DAP10 Protein, Human (HEK293, mFc)

Cat. No.:	HY-P75310
Synonyms:	Hematopoietic cell signal transducer; HCST; DAP10; KAP10; PIK3AP
Species:	Human
Source:	HEK293
Accession:	Q9UBK5 (Q19-P48)
Gene ID:	10870
Molecular Weight:	Approximately 33-45 kDa

PROPERTIES

AA Sequence	Q T T P G E R S S L P A F Y P G T S G S C S G C G S L S L P
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 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>DAP10, a transmembrane adapter protein, forms an activation receptor, KLRK1-HCST, in lymphoid and myeloid cells, playing a pivotal role in triggering cytotoxicity against target cells expressing stress-induced ligands such as MHC class I chain-related MICA and MICB, as well as UL16-binding proteins (ULBPs). This receptor, activated by the interaction of ULBPs with KLRK1-HCST, initiates calcium mobilization and activates the PI3-kinase PIK3R1, MAP2K/ERK, and JAK2/STAT5 signaling pathways. The presence of both PIK3R1 and GRB2 is essential for full KLRK1-HCST-mediated activation, leading to the ultimate killing of target cells. In NK cells, KLRK1-HCST signaling induces cytotoxicity and enhances cytokine production, while in T-cells, it primarily provides costimulation for TCR-induced signals. The KLRK1-HCST receptor plays a crucial role in immune surveillance against tumors, and its absence results in the escape of melanoma cells from NK cell-mediated immune surveillance. DAP10 interacts with CLEC5A, forming a CLEC5A/TYROBP/HCST trimolecular complex, and it homodimerizes, with disulfide linkages. The heterohexamer comprises four subunits of HCST/DAP10 and two subunits of KLRK1, and it interacts with PIK3R1, GRB2, KLRK1, and CD300H.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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