HLA-A*0301 KRAS G12V Complex Tetramer Protein, Human (HEK293, His-Avi)

Cat. No.:	HY-P77782
Synonyms:	MHC; KRAS; K-Ras 2; KRAS2; C-K-RAS; CFC2; K-RAS2A; K-RAS2B; K-RAS4A; K-RAS4B; KRAS1; KRAS2; NS; NS3; RASK2; GTPase Kras; KI-RAS; RALD
Species:	Human
Source:	HEK293
Accession:	NP_002107.3 (G25-T305)&P61769 (I21-M119)&VVGAVGVGK
Gene ID:	3105&567
Molecular Weight:	260-265 kDa

PROPERTIES

Biological Activity	Immobilized Human KRAS G12V (HLA-A*03:01) Tetramer, His Tag at 5μg/ml (100μl/Well) on the plate. Dose response curve for Anti-KRAS G12V (HLA-A*03:01) Antibody, hFc Tag with the EC_{50} of 0.58μg/ml determined by ELISA.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Normally 5% trehalose is added as protectant before lyophilization.
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	HLA-A*0301, a critical antigen-presenting major histocompatibility complex class I (MHCI) molecule, collaborates with B2M/beta 2 microglobulin to predominantly display viral and tumor-derived peptides on antigen-presenting cells. This presentation allows recognition by alpha-beta T cell receptor (TCR) on HLA-A-restricted CD8-positive T cells, thereby guiding antigen-specific T cell immune responses to eliminate infected or transformed cells. Additionally, HLA-A*0301 may present self-peptides derived from the signal sequence of secreted or membrane proteins, although T cells specific for these peptides are typically inactivated to prevent autoreactivity. The recognition of both the peptide and the MHC molecule by TCR underscores the fine specificity of antigen recognition, with the peptide responsible for this specificity and MHC residues accounting for the MHC restriction of T cells. HLA-A*0301 typically presents intracellular peptide antigens of 8 to 13 amino acids resulting from cytosolic proteolysis via IFNG-induced immunoproteasome or via endopeptidase IDE/insulin-degrading enzyme. It can bind different peptides containing allele-specific binding motifs primarily defined by anchor residues at positions 2 and 9. Notably, specific alleles, such as A*01:01 and A*03:01, present a restricted repertoire of peptides, including viral and tumor epitopes, each characterized by distinct motifs and anchors.

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

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