

HLA-A*0201 HPV16 E7 complex Protein, Human (YMLDLQPET, HEK293, His-Avi)

Cat. No.:	HY-P700917
Synonyms:	rHuHLA-A*0201 HPV16 E7 complex Protein
Species:	Human
Source:	HEK293
Accession:	P04439-1 (G25-T305)&P61769 (I21-M119)&YMLDLQPET
Gene ID:	/&567
Molecular Weight:	53-63 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μ m filtered solution of PBS, pH 7.4. Normally 8% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/ μ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH ₂ O.
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>The HLA-A*0201 HPV16 E7 complex, a member of the antigen-presenting major histocompatibility complex class I (MHC I) family, plays a pivotal role in immune recognition and response. When associated with β2 microglobulin (B2M), it presents predominantly viral and tumor-derived peptides on the surface of antigen-presenting cells, facilitating recognition by CD8-positive T cells through their alpha-beta T cell receptors (TCR). This interaction guides an antigen-specific T cell immune response, crucial for eliminating infected or transformed cells. Beyond viral peptides, it may also present self-peptides originating from the signal sequence of secreted or membrane proteins. The complex displays a diverse repertoire of intracellular peptide antigens, typically 8 to 13 amino acids in length, processed through immunoproteasomes or insulin-degrading enzyme. The binding of different peptides, defined by specific anchor residues, contributes to the fine specificity of antigen recognition. Notably, HLA-A*0201, a representative allele, presents a restricted peptide repertoire, including viral epitopes from influenza and SARS-CoV-2, as well as tumor-associated antigens such as MAGE1, MAGEA3, and WT1. The complexity of peptide presentation highlights the crucial role of this MHC I complex in orchestrating immune responses against various pathogens and cancerous cells.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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