

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

<b>Cat. No.:</b>	HY-P700916
<b>Synonyms:</b>	rHuHLA-A*0201 HPV16 E7 complex Protein
<b>Species:</b>	Human
<b>Source:</b>	HEK293
<b>Accession:</b>	P04439-1 (G25-T305)&P61769 (I21-M119)&YMLDLQPET
<b>Gene ID:</b>	/&567
<b>Molecular Weight:</b>	53-63 kDa

### PROPERTIES

<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.22 $\mu$ m filtered solution of PBS, pH 7.4. Normally 8% trehalose is added as protectant before lyophilization.
<b>Endotoxin Level</b>	<1 EU/ $\mu$ g, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 $\mu$ g/mL in ddH <sub>2</sub> O.
<b>Storage &amp; Stability</b>	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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	<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 <math>\beta</math>2 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.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA