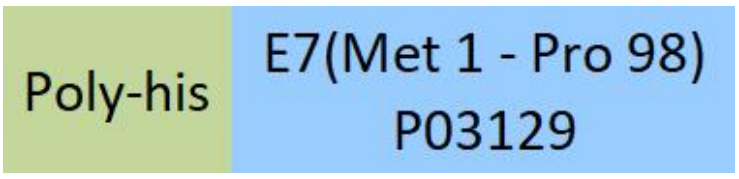
Synonym

E7

Source

HPV16 E7 Protein, His Tag(PE7-V5143) is expressed from E. coli cells. It contains AA Met 1 - Pro 98 (Accession # P03129).
Predicted N-terminus: Met

Molecular Characterization



This protein carries a polyhistidine tag at the N-terminus.

The protein has a calculated MW of 13.0 kDa. The protein migrates as 15-16 kDa when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE).

Endotoxin

Less than 1.0 EU per μg by the LAL method.

Purity

>90% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μm filtered solution in 50 mM Tris, 500 mM NaCl, pH7.5 with glycerol as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

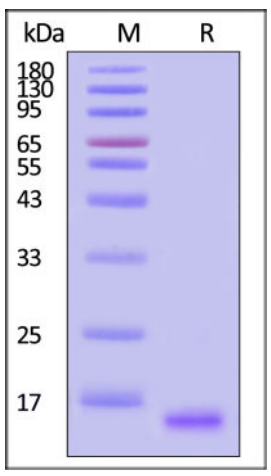
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

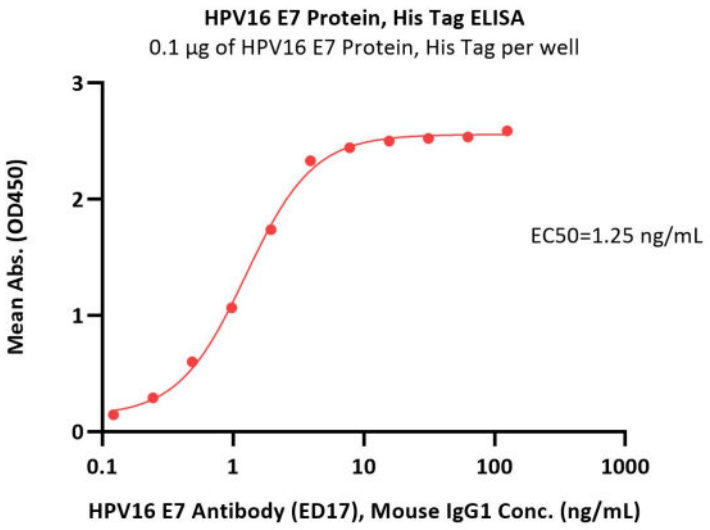
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



HPV16 E7 Protein, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With Star Ribbon Pre-stained Protein Marker).

Bioactivity-ELISA



Immobilized HPV16 E7 Protein, His Tag (Cat. No. PE7-V5143) at 1 μg/mL (100 μL/well) can bind HPV16 E7 Antibody (ED17), Mouse IgG1 with a linear range of 0.1-4 ng/mL (QC tested).

Background

Human papillomavirus (HPV) E6 and E7 viral oncoproteins play the pivotal role in driving the cells toward oncogenesis. In their process of replicating the viral genome, they can induce all the hallmarks of a cancer cell, i.e., uncontrolled cellular proliferation, angiogenesis, invasion, metastasis, and unrestricted telomerase activity along with the evasion of apoptosis and growth suppressors' activity. E7 protein has both transforming and trans-activating activities. Induces the disassembly of the E2F1 transcription factor from RB1, with subsequent transcriptional activation of E2F1-regulated S-phase genes. Interferes with host histone deacetylation mediated by HDAC1 and HDAC2, leading to transcription activation. Also plays a role in the inhibition of both antiviral and antiproliferative functions of host interferon alpha. Interaction with host TMEM173/STING impairs the ability of TMEM173/STING to sense cytosolic DNA and promote the production of type I interferon (IFN-alpha and IFN-beta).

Clinical and Translational Updates