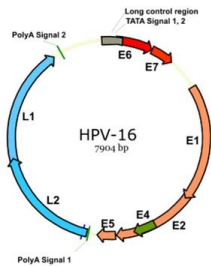


Product Specification Sheet

Monoclonal Anti-Human Papilloma Virus 16 (HPV16) early protein E6 (HPV16E6) IgG and protein controls

- Cat # HPV16E61-M** Monoclonal Anti-HPV16 early protein E7 (HPV16E7) IgG, aff pure #1 **SIZE:** 100 ul
- Cat # HPV16E61-C** Recombinant HPV16E6 protein control for WB **SIZE:** 100 ul

Human papillomavirus (HPV) is a virus from the papillomavirus family of viruses that is capable of infecting humans. Like all papillomaviruses, HPVs establish productive infections only in keratinocytes of the skin or mucous membranes. While the majority of the nearly 200 known types of HPV cause no symptoms in most people, some types can cause warts (verrucae), while others can lead to cancers of the cervix, vulva, vagina, and anus in women or cancers of the anus and penis in men. HPV infection is a cause of nearly all cases of cervical cancer. Over 120 HPV types have been identified and are referred to by number. Types 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, and 59 are "high-risk" sexually transmitted HPVs. Two vaccines are available to prevent infection by some HPV types: **Gardasil**, marketed by Merck, and **Cervarix**, marketed by GlaxoSmithKline. Both vaccines utilize recombinant L1 proteins and protect against initial infection with HPV types 16 and 18, which cause most of the HPV associated cancer cases. Gardasil also protects against HPV types 6 and 11, which cause 90% of genital warts.



The HPV genome (dsDNA of ~8000 base pairs) is composed of six early (E1, E2, E3, E4, E6, and E7) and two late (L1 and L2) proteins. Encodes a protein that binds to the viral origin of replication in the long control region of the viral genome. E1 uses ATP to exert a helicase activity that forces apart the DNA strands, thus preparing the viral genome for replication by cellular DNA replication factors. After the host cell is infected E1 and E2 are expressed first. In most papillomavirus types,

E6 is a 151 amino-acid peptide that incorporates a type 1 motif with a consensus sequence -(T/S)-(X)-(V/I)-COOH. It also has two zinc finger motifs. E6 is of particular interest because it appears to have multiple roles in the cell and to interact with many other proteins. Its major role, however, is to mediate the degradation of p53, a major tumor suppressor protein, reducing the cell's ability to respond to DNA damage. Since the expression of E6 is strictly required for maintenance of a malignant phenotype in HPV-induced cancers, it is an appealing target of therapeutic HPV vaccines designed to eradicate established cervical cancer tumors.

E6 has also been shown to target other cellular proteins, thereby altering several metabolic pathways. One such target is NFX1-91, which normally represses production of telomerase, a protein that allows cells to divide an unlimited number of times. When NFX1-91 is degraded by E6, telomerase levels increase, inactivating a major mechanism keeping cell growth in check.[44] Additionally, E6 can act as a transcriptional cofactor—specifically, a transcription activator—when interacting with the cellular transcription factor, E2F1/DP1. The papillomavirus capsid also contains a viral protein known as L2, which is less abundant. L2 is of interest as a possible target for more broadly protective HPV vaccines.

Source of Peptide Antigen and Antibodies

Antigen	HPV Oncoprotein E7, Type 16, recombinant
Ab Host/type	Mouse, monoclonal, antiserum (cat # HPV16E71-M) in PBS, pH 7.5 containing 0.05% azide; isotype IgG1. Reconstitute powder in 100 ul water or PBS. Store frozen at -20oC or below.
2-ab	Goat Anti-mouse IgG-HRP conjugate Cat # 40320 (AP, biotin, FITC conjugates also available)
-ve control IgG	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Recombinant HPV16, E6 protein (1-158-aa, protein accession # **P03126**) was expressed in E. coli and purified (>95%, ~20 Kda). For Western blot +ve control (**Cat # HPV16E61-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **RELMG31-C** for good visibility with antibody Cat # **HPV16E61-M**. Store at -20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **HPV16E61-C** solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly

Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder.

Recommended Usage

ELISA: Test 1:100-1:1000 diluted controls using Recombinant HPV16E7 protein coated plates.

Western: use at 1:200-1:1000 dilution

Antibody specificity Cross-reactivity

Reacts with the monomer and dimer forms when tested in Western Blot. Purified recombinant HPV16E6 protein control (#HPV16E61-C) can also be used as positive controls.

General References: Neepser MP (1996) Gene 180, 1-6; Narechania A (2005) J. Virol. 79, 15503-15510

For In Vitro Research Use and Manufacturing Only.

Related material available from ADI

HPV06L15-R-10	Recombinant (E.coli) Human Papilloma Virus 06 late protein L1 (HPV6L1), full length, His-tag
HPV11L15-R-10	Recombinant (E.coli) Human Papilloma Virus 11 late protein L1 (HPV11L1), full length, His-tag
HPV16L15-R-10	Recombinant (E.coli) Human Papilloma Virus 16 (HPV16) late protein L1 protein (his-tag), full length,
HPV18L15-R-10	Recombinant (E.coli) Human Papilloma Virus 18 (HPV18) late protein L1, full length, His-tag
550-211-PRG	Rabbit Anti-Human Papilloma Virus 11 late protein L1 (HPV11L1) IgG ELISA kit, quantitative,
550-216-PRG	Rabbit Anti-Human Papilloma Virus 16 late protein L1 (HPV16L1) IgG ELISA kit, quantitative,
550-218-PRG	Rabbit Anti-Human Papilloma Virus 18 late protein L1 (HPV18L1) IgG ELISA kit, quantitative, 96 tests 1 Kit
HPV16E61-M	130916A