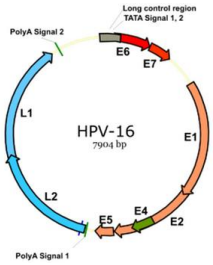
Product Specification Sheet

Recombinant Human Papilloma Virus 18 (HPV18) early protein E2+E6+E7 protein

□ Cat # HPV18E25-R-50 Recombinant (E.Coli) HPV18 early protein E2+E6+E7 epitopes fused to GST protein **SIZE**: 50 ug

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

Recombinant HPV18 protein E2, E6, and E7 epitopes (56 kda) are expressed as single mosaic protein with GST tag in E.coli and purified (>95% with major band at ~83 kDa). It is supplied in 3M Urea and 0.02% sodium azide as preservative. (lot sp. conc on the vial). Store at -20oC or below for at least 6-months.

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 HPV18E2 protein coated plates.

Western: use at 50-200 ng protein/lane

General References: Neeper 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

HPV18E25-R-50 150203A

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, San Antonio, TX 78244, USA; **Email**: service@4adi.com
☎ (800) 786-5777; (210) 561-9515; **Fax**: (210) 561-9544; **Web Site**: www.4adi.com