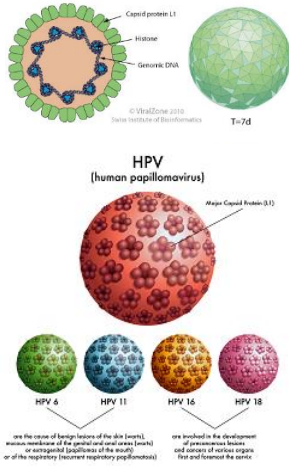


Human Papilloma Virus (HPV) Vaccine: Antibody ELISA Kits, Recombinant Proteins, Peptides and Antibodies

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.



HPV is a non-enveloped, small, icosahedral, about 60 nm in size. A single molecule of circular dsDNA is contained within the T=7 icosahedral capsid, which is composed of 72 pentamers. The HPV genome (dsDNA of ~8kb) is composed of six early (**E1, E2, E3, E4, E6, and E7**) and two late (**L1 and L2**) proteins. After the host cell is infected E1 and E2 are expressed first. In the upper layers of the host epithelium, the late genes L1 and L2 are translated and serve as structural proteins that encapsulate the amplified viral genomes. 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. HPV06 L1 (501-aa), HPV11 L1 (503-aa) HPV16 L1 (531aa/505-aa), HPV18 L1 (568-aa/427-aa). HPV L1s from HPV6, 11, 18, and 18 subtypes share ~50% sequence homology.



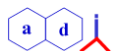
HPV Vaccines: The first HPV vaccine became available in 2006. Two vaccines are available to prevent infection by some HPV types: **Gardasil**, marketed by Merck, and **Cervarix**, marketed by GlaxoSmithKline. Both vaccines utilize recombinant L1 proteins and protect against initial infection with HPV 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. Gardasil is also effective in males, providing protection against genital warts, anal cancer, and some potentially precancerous lesions caused by some HPV types. The vaccination is expected to protect against penile cancer and anal cancer caused by included HPV types, and research in this area is ongoing. **Gardasil 9** has 5 additional HPV L1s (**HPV-31, HPV-33, HPV-45, HPV-52, and HPV-58**), it was approved in 2014. The protective effects of the vaccine are expected to last a minimum of 4.5 years after the initial vaccination.

About ADI's HPV ELISA Kits- ADI has cloned, expressed, and purified **L1s from HPV6, HPV11, HPV16, and HPV18, HPV31, HCP33, HPV45, HPV45, and HPV52** viruses. It is necessary to monitor the efficacy of vaccines and determine immune status of population in normal and vaccinated individuals. ADI has developed HPV antibody ELISA Kits for humans and animals that will be useful to determine the efficacy of various HPV vaccines. ADI is making available antibody ELISA kits for individual HPV serotypes used in Gardasil 5, Gardasil 9, and Cervarix as well as combo ELISAs that measure antibody response to the mix of serotypes used in HPV vaccines. Recombinant HPV proteins and antibodies are also available to further research into HPV vaccines.

Human papilloma virus vaccine Related ELISA kits

(See Details at the website) http://4adi.com/commerce/catalog/spcategory.jsp?category_id=2735

Vaccines	Target Antigens	ELISA Type	Ab Type	Human	Mouse	Rabbit
Human Papilloma Virus (HPV)	HPV6L1	Ab	IgG	550-106-PHG	550-306-PMG	550-206-PRG
	HPV11L1		IgG	550-111-PHG	550-311-PMG	550-211-PRG
	HPV16L1		IgG	550-116-PHG	550-316-PMG	550-216-PRG
	HPV18L1		IgG	550-118-PHG	550-318-PMG	550-218-PRG
	HPV31L1	Ab	IgG	550-131-PHG	550-331-PMG	550-231-PRG
	HPV33L1	Ab	IgG	550-133-PHG	550-333-PMG	550-233-PRG
	HPV45L1	Ab	IgG	550-145-PHG	550-345-PMG	550-245-PRG
	HPV52L1	Ab	IgG	550-152-PHG	550-352-PMG	550-252-PRG
	HPV58L1	Ab	IgG	550-158-PHG	550-358-PMG	550-258-PRG
	HPV 6+11+16+18 (Gardasil)	Ab	IgG	550-100-PHG	550-300-PMG	550-200-PRG
	HPV 16+18 (Cervarix)	Ab	IgG	550-400-PHG	550-420-PMG	550-410-PRG
	HPV 6+11+16+18+31+33+45+52+58 (Gardasil 9)	Ab	IgG	550-500-PHG	550-520-PMG	550-510-PRG



Human Papilloma Virus (HPV) Recombinant Proteins, Peptides and Antibodies
 (See Details at the website) http://4adi.com/commerce/catalog/spcategory.jsp?category_id=2735

Items	Catalog#	Product Description	Product Type
HPV06	HPV06E71-M	Monoclonal Anti-HPV6 early protein 7 (E7) (HPV6E7) IgG,	Antibodies
	HPV06L11-M	Monoclonal Anti-HPV6 late protein L1 (HPV6L1) IgG	Antibodies
	HPV06L12-S	Rabbit Anti-HPV6 late protein L1 (HPV6L1, full length) antiserum	Antibodies
	HPV06L15-R-10	Recombinant (E.coli) HPV06 late protein L1 (HPV6L1), full length, His-tag	Recomb protein
HPV11	HPV11L11-M	Monoclonal Anti-HPV11 (HPV11) late protein L1 (HPV11L1) IgG, aff pure #1	Antibodies
	HPV11L12-S	Rabbit Anti-HPV11 late protein L1 (HPV11L1, full length) antiserum	Antibodies
	HPV11L15-R-10	Recomb. (E. coli) HPV11 late protein L1 (HPV11L1), full length, His-tag	Recomb protein
HPV16	HPV16E21-M	Monoclonal Anti-HPV16 early protein E2 (HPV16E2) IgG, aff pure #1	Antibodies
	HPV16E61-M	Monoclonal Anti-HPV16 (HPV16) early protein E6 (HPV16E6) IgG, aff pure #1	Antibodies
	HPV16E71-M	Monoclonal Anti-HPV16 (HPV16) early protein E7 (HPV16E7) IgG, aff pure #1	Antibodies
	HPV16L12-S	Rabbit Anti-HPV16 late protein L1 (HPV16L1, full length) antiserum	Antibodies
	HPV16L11-M	Monoclonal Anti-HPV16 (HPV16) late protein L1 (HPV16L1) IgG, aff pure #1	Antibodies
	HPV16L11-C	Recomb. purified HPV16 late protein L1 ((HPV16L1, full length) control for WB	Western Control
	HPV16E21-R-100	Recomb. (E.coli) HPV16 early protein (HPV16, E2+E6+E7 epitopes fused to GST	Recomb protein
	HPV16L15-R-10	Recomb. (E.coli) HPV16 late protein L1 protein ((HPV16L1, his-tag), full length	Recomb protein
HPV18	HPV18E61-M	Monoclonal Anti-HPV18 early protein E6 (HPV18E6) IgG, aff pure #1	Antibodies
	HPV18E71-M	Monoclonal Anti-HPV18 early protein E7 (HPV18E7) IgG, aff pure #1	Antibodies
	HPV18L12-S	Rabbit Anti-HPV18 late protein L1 (HPV18L1, full length) antiserum	Antibodies
	HPV18L11-M	Monoclonal Anti-HPV18 late protein L1 (HPV18L1) IgG, aff pure #1	Antibodies
	HPV618L13-S	Mouse Anti-Gardasil vaccine L1s (HPV6+11+16+18 late proteins) antiserum	Antibodies
	HPV18L11-C	Recomb. purified HPV18 late protein L1 (HPV18L1, full length) control for WB	WB Blot +ve Control
	HPV18E25-R-50	Recomb. HPV18 early protein (HPV18; E2+E6+E7 epitopes fused to GST protein	Recomb protein
	HPV18L15-R-10	Recomb. (E.coli) HPV18 late protein L1 (HPV18L1), full length, His-tag	Recomb protein
	SP-100307-1	HPV-E7-N (MW: 2467.72)	Synthetic peptide
	SP-100308-1	HPV-E7 (MW: 2102.08)	Synthetic peptide
	SP-100309-1	HPV-E6-N (MW: 1810.07)	Synthetic peptide
	SP-100310-1	HPV-E6-M (MW: 2459.64)	Synthetic peptide
	SP-100311-1	HPV-E6-C (MW: 2516.92)	Synthetic peptide
HPV31	HPV31L11-S	Rabbit-Anti-HPV31 L1 protein antiserum	Antibodies
	HPV31L11-C	Recomb. HPV31 L1 protein (>95% full length, His-tag) for WB +ve control	Western Control
	HPV31L15-R-10	Recomb. (E. coli) HPV31 L1 protein (>95% full length, His-tag) for ELISA	Recomb. protein
HPV33	HPV33L11-S	Rabbit-Anti-HPV33 L1 protein antiserum	Antibodies
	HPV33L11-C	Recomb. HPV33 L1 protein (>95% full length, His-tag) for WB +ve control	Western Control
	HPV33L15-R-10	Recomb. (E. coli) HPV33 L1 protein (>95% full length, His-tag) for ELISA	Recomb. protein
HPV45	HPV45L11-S	Rabbit-Anti-HPV45 L1 protein antiserum	Antibodies
	HPV45L11-C	Recomb. HPV45 L1 protein (>95% full length, His-tag) for WB +ve control	Western Control
	HPV45L15-R-10	Recomb. (E. coli) HPV45 L1 protein (>95% full length, His-tag) for ELISA	Recomb. protein
HPV52	HPV52L11-S	Rabbit-Anti-HPV52 L1 protein antiserum	Antibodies
	HPV52L11-C	Recomb. HPV52 L1 protein (>95% full length, His-tag) for WB +ve control	Western Control
	HPV52L15-R-10	Recomb. (E. coli) HPV52 L1 protein (>95% full length, His-tag) for ELISA	Recomb. protein
HPV58	HPV58L11-S	Rabbit-Anti-HPV58 L1 protein antiserum	Antibodies
	HPV58L11-C	Recomb. HPV58 L1 protein (>95% full length, His-tag) for WB +ve control	Western Control
	HPV58L15-R-10	Recomb. (E. coli) HPV58 L1 protein (>95% full length, His-tag) for ELISA	Recomb. Protein
HPV antibody -ve and +ve sera	550-006-HPC	Human Anti-HPV6L1 IgG high positive control serum control (5X)	Antibody Controls
	550-006-NPC	Human Anti-HPV6L1 IgG negative/very low positive control serum control (5X)	Antibody Controls
	550-011-HPC	Human Anti-HPV6L11 IgG high positive control serum control (5X)	Antibody Controls
	550-011-NPC	Human Anti-HPV6L11 IgG negative/very low positive control serum control (5X)	Antibody Controls
	550-016-HPC	Human Anti- HPV6L16L1 IgG high positive control serum control (5X)	Antibody Controls
	550-016-NPC	Human Anti-HPV6L16L1 IgG negative/very low positive control serum control (5X)	Antibody Controls
	550-018-HPC	Human Anti-HPV6L18L1 IgG high positive control serum control (5X)	Antibody Controls
	550-018-NPC	Human Anti-HPV6L18L1 IgG negative/very low positive control serum control (5X)	Antibody Controls
	550-006-HPC	Human Anti-HPV6L1 IgG high positive control serum control (5X)	HPV_Vaccine_Flr.pdf

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