Active Recombinant HPV 31 L1 protein

Cat. No. HPV31-011H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant HPV 31 L1 protein was expressed in Baculovirus-Insect Cells.
Species	HPV
Source	Insect Cells
ProteinLength	501 amino acids
Description	Papillomaviruses are highly species-specific and can cause squamous epithelial and fibroepithelial tumors in their hosts. Human papillomaviruses (HPVs) are associated with benign and malignant hyperproliferation of cells, with a wide variety of clinical manifestations ranging from condyloma acuminata to cervical carcinoma. HPV infection is the most common sexually transmitted disease. More than 4 HPV types so far identified are known to infect the genital tract. Genital HPVs are divided into `low risk' HPVs such as HPV 6 and 11 and 'high risk' HPV types such as 16, 18, 31, 33, 35, 39, 45 and 52, 58 which are responsible for more than 95% of HPV-induced cervical cancer. Vaccination against these high risk types seems to be the most feasible prevention for cervical cancer. Indeed, clinical trials have shown prophylactic HPV vaccines to be effective against HPV infection, cervical intraepithelial neoplasia (CIN), and genital warts, but protection is type-specific and the currently developed vaccines target only a few types. These vaccines are based on papillomavirus-like particles (VLPs) composed of the major capsid protein, L1. The L1 protein self assembles into VLPs when expressed at high levels in eukaryotic or insect cells. VLPs are composed of 36 copies of L1 protein organized into 72 pentamers, so called

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	capsomeres, to form particles which are immunologically indistinguishable from native virions. Experimentally induced VLP antisera have been shown to be mostly typespecific with respect to neutralization. Minor cross-neutralization has been observed only between closely related HPV types, e.g. HPV6 and 11, HPV18 and 45, or HPV16 and 31. Structure analysis has revealed the presence of several hyper variable loops on the outer surface of the capsid. With a few exceptions, all HPV-neutralizing monoclonal antibodies analyzed so far are type-specific and recognize conformational epitopes within surface-exposed hyper variable loops of the major capsid protein L1.
Form	Sterile 20 mM His, 0.5 M NaCl, pH 6.2, formaldehyde (≤ 40 μg/mL).
Bio-activity	Testing in progress
Molecular Mass	The recombinant HPV 31 L1 consists of 501 amino acids and predicts a molecular mass of 56 kDa.
Endotoxin	< 0.01 EU per μg of the protein as determined by the LAL method
Purity	> 95 % as determined by SDS-PAGE.
Stability	Samples are stable for up to twelve months from date of receipt at -20°C to -80°C
Storage	Store it under sterile conditions at -20°C to -80°C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 μg/μl. Centrifuge the vial at 4℃ before opening to recover the entire contents.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are

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	shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

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