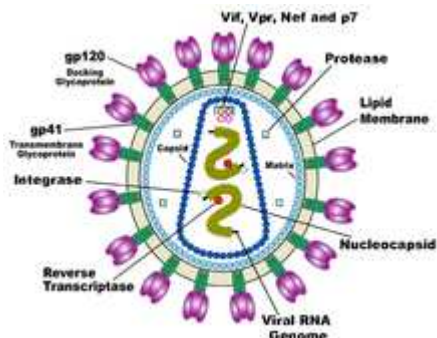


□ Cat # HP1201-R Recombinant (E. coli) HIV-1 p120 protein (C-terminus of gp120 and gp41) (soluble ~16 kda)

**Size:** □ 100 ug

Human immunodeficiency virus (HIV) is a lentivirus (a member of the retrovirus family) that causes acquired immunodeficiency syndrome (AIDS), a condition in humans in which progressive failure of the immune system allows life-threatening opportunistic infections and cancers to thrive. HIV is a member of the genus Lentivirus, part of the family of Retroviridae. Lentiviruses are transmitted as single-stranded, positive-sense, enveloped RNA viruses. Upon entry into the target cell, the viral RNA genome is converted (reverse transcribed) into double-stranded DNA by a virally encoded reverse transcriptase that is transported along with the viral genome in the virus particle. The resulting viral DNA is then imported into the cell nucleus and integrated into the cellular DNA by a virally encoded integrase and host co-factors. Once integrated, the virus may become latent, allowing the virus and its host cell to avoid detection by the immune system. Alternatively, the virus may be transcribed, producing new RNA genomes and viral proteins that are packaged and released from the cell as new virus particles that begin the replication cycle anew. Two types of HIV have been characterized: HIV-1 and HIV-2. HIV-1 is the virus that was initially discovered and termed both LAV and HTLV-III. It is more virulent, more infective,[8] and is the cause of the majority of HIV infections globally. The lower infectivity of HIV-2 compared to HIV-1 implies that fewer of those exposed to HIV-2 will be infected per exposure. Because of its relatively poor capacity for transmission, HIV-2 is largely confined to West Africa.

HIV is different in structure from other retroviruses. It is roughly spherical with a diameter of about 120 nm, around 60 times smaller than a red blood cell, yet large for a virus. It is composed of two copies of positive single-stranded RNA that codes for the virus's nine genes ((gag, pol, and env, tat, rev, nef, vif, vpr, vpu, and sometimes a tenth tev, which is a fusion of tat env and rev) enclosed by a conical capsid composed of 2,000 copies of the viral protein p24. The single-stranded RNA is tightly bound to nucleocapsid proteins, p7, and enzymes needed for the development of the virion such as reverse transcriptase, proteases, ribonuclease and integrase. A matrix composed of the viral protein p17 surrounds the capsid ensuring the integrity of the virion particle. This is, in turn, surrounded by the viral envelope that is composed of two layers of fatty molecules called phospholipids taken from the membrane of a human cell when a newly formed virus particle buds from the cell. Embedded in the viral envelope are proteins from the host cell and about 70 copies of a complex HIV protein that protrudes through the surface of the virus particle. This protein, known as Env, consists of a cap made of three molecules called glycoprotein (gp) 120, and a stem consisting of three gp41 molecules that anchor the structure into the viral envelope. This glycoprotein complex enables the virus to attach to and fuse with target cells to initiate the infectious cycle. Both these surface proteins, especially gp120, have been considered as targets of future treatments or vaccines against HIV.



**Source and Formulation**

A recombinant protein containing antigenic portions of both gp41 and gp120 is expressed in Escherichia Coli (>90%). It is supplied in 20 mM PBS pH 7.4 and 0.01% SDS in liquid or lyophilized in the same buffer (or see lot sp. conc on the vial). If supplied in powder then reconstitute in water and prepare at least 100 ug/ml stock solution. Store in liquid at 4oC for ~1 week or aliquots in suitable size and store at -20oC for long term storage.

**Specificity:**

Immunoreactive with HIV samples containing antibodies to gp41 and gp120.

**Applications:**

Antigen in ELISA and Western blots, excellent antigen for early detection of HIV seroconvertors with minimal specificity problems

This item is for LABORATORY RESEARCH USE ONLY..

**References:** Weiss RA (1993) science 260, 1273-1279; Wyatt R (1998) Science 280, 1884; Watts JM (2009) Nature 460, 711-716;

**Related items:**

Catalog#	ProdDescription
AB-15210	Mouse Anti- HIV-1 p24 IgG
HP241-R	Recombinant (E. coli) HIV-1 p24 protein (soluble)
RP-535	Recombinant HIV-1 p24 Core
RP-536	Recombinant HIV-1 p24
RP-538	Recombinant HIV-1 p24, Biotin Labeled
RP-541	Recombinant HIV-1 p24, Horseradish Peroxidase Labeled
RP-542	Recombinant HIV-1 gag p17-p24, gp41-gp120
RP-543	Recombinant HIV-1 gag p17, p24, gp120
RP-554	Recombinant HIV-1 gag p17, p24
RP-556	Recombinant HIV-1 p24 gag
RP-583	Recombinant HIV-1 p24 gag, His Tag
RP-587	Recombinant HIV-1 p24 Core, Sf9
SP-56522-5	HIV-1 gag Protein p24 (65-73) (isolates MAL/U455) (AA: Ala-Met-Gln-Met-Leu-Lys-Asp-Thr-Ile) (MW: 1050.31)
SP-89131-1	HIV-1 gag Protein p24 (137-154) (AA: Gly-Leu-Asn-Lys-Ile-Val-Arg-Met-Tyr-Ser-Pro-Thr-Ser-Ile-Leu-Asp-Ile-Arg) (MW: 2076.51)
SP-89132-1	HIV-1 gag Protein p24 (194-210) (AA: Ala-Asn-Pro-Asp-Cys-Lys-Thr-Ile-Leu-Lys-Ala-Leu-Gly-Pro-Ala-Ala-Thr) (MW: 1682.99)

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