

## Recombinant HIV-1 Envelope (spans CT of gp120 and gp41)

<b>Catalog No.</b>	CSI15794A	<b>Quantity:</b>	100 µg
	CSI15794B		0.5 mg
	CSI15794C		1.0 mg

**Description:** Human immunodeficiency virus (HIV) is a retrovirus that can lead to a condition in which the immune system begins to fail, leading to opportunistic infections. HIV primarily infects vital cells in the human immune system such as helper T cells (specifically CD4+ T cells), macrophages and dendritic cells. HIV infection leads to low levels of CD4+ T cells through three main mechanisms: firstly, direct viral killing of infected cells; secondly, increased rates of apoptosis in infected cells; and thirdly, killing of infected CD4+ T cells by CD8 cytotoxic lymphocytes that recognize infected cells. When CD4+ T cell numbers decline below a critical level, cell-mediated immunity is lost, and the body becomes progressively more susceptible to opportunistic infections. HIV was classified as a member of the genus *Lentivirus*, part of the family of *Retroviridae*. Lentiviruses have many common morphologies and biological properties. Many species are infected by lentiviruses, which are characteristically responsible for long-duration illnesses with a long incubation period. Lentiviruses are transmitted as single-stranded, positive-sense, enveloped RNA viruses. Upon entry of the target cell, the viral RNA genome is converted to double-stranded DNA by a virally encoded reverse transcriptase that is present in the virus particle. This viral DNA is then integrated into the cellular DNA by a virally encoded integrase so that the genome can be transcribed. Once the virus has infected the cell, two pathways are possible: either the virus becomes latent and the infected cell continues to function, or the virus becomes active and replicates, and a large number of virus particles are liberated that can then infect other cells.

HIV-1 envelope is an *E. coli*-derived recombinant protein that composes all of the reported immunogenic determinants found in gp41 and a small portion of gp120. The gene encoding this fusion protein was synthesized using conditions optimized for *E. coli* expression and doesn't represent a linear HIV-1 envelope sequence. HIV-1 is a non-glycosylated, 233 amino acid polypeptide chain, having a molecular mass of 27275.88 dalton and pI=9.68. HIV-1 envelope protein spans the C-Terminus of gp120 and most of gp41. Superior diagnostic reagent for HIV-1 and HIV type-O detection. Detects all HIV-1 and HIV-type O infected individuals responding to envelope proteins.

<b>Source:</b>	<i>E. coli</i>
<b>Molecular Mass:</b>	27275.88 Dalton
<b>Formulation:</b>	The HIV-1 contains 0.5X PBS & 6M urea.
<b>Purity:</b>	Greater than 95.0% as determined by HPLC analysis and SDS-PAGE.
<b>Physical Appearance:</b>	Sterile filtered colorless clear solution.

**Specific Activity:** Immunoreactive with all sera of HIV-1 and HIV-type O infected individuals and with 60-80% of HIV-2 infected individuals.

**Storage & Stability:** HIV-1 Envelope although stable at 4°C for 1 week, should be stored below -18°C.  
**Please prevent freeze thaw cycles.**

**Applications:** HIV-1 Envelope antigen is suitable for ELISA and Western blots, excellent antigen for early detection of HIV seroconvertors with minimal specificity problems.

**NOT FOR HUMAN USE. FOR RESEARCH ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.**



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