



HIV-1 Envelope

Human Immunodeficiency Virus 1 Antigen
recombinant, *E. coli*

Cat. No.	Amount
PR-1200	100 µg

For general laboratory use.

Shipping: shipped on gel packs

Storage Conditions: store at -20 °C

Additional Storage Conditions: avoid freeze/thaw cycles

Shelf Life: 12 months

Purity: > 95 % (HPLC)

Form: liquid (Supplied in 0.5x PBS containing 6 M urea)

Applications:

May be used in ELISA and Western blots, excellent antigen for early detection of HIV seroconvertors with minimal specificity problems.

Description:

This antigen is an *E. coli*-derived recombinant protein that composes all of the reported immunogenic determinants found in gp41 and at the C-terminus of gp120. The gene encoding this fusion protein was synthesized using codons 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 27.28 kDa. 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. The fusion protein was purified by proprietary chromatographic technique.

Background: HIV belongs to the retrovirus family, distinguished by possession of a viral reverse transcriptase that transcribes viral RNA into DNA which is integrated into the host-cell genome. The envelope glycoprotein gp160 from HIV, containing two non-covalently associated subunits, gp120 and gp41, mediates the membrane fusion activity of the virus. The surface subunit gp120 attaches to the receptor (CD4) and the coreceptor (CCR5 or CXCR4) on the cell surface, and subsequent conformational changes within the Env complex lead to membrane fusion mediated by the transmembrane subunit gp41.

Activity:

Immunoreactive with all sera of HIV-1 and HIV-type O infected individuals and with 60-80% of HIV-2 infected individuals. This antigen was thoroughly tested in various tests as well as ELISA using the standard BBI serum panels. All antibody detection tests on this antigen were as sensitive or more than the standard Abott third generation tests.

Selected References:

Yoshino *et al.* (2004) A novel adjuvant for mucosal immunity to HIV-1 gp120 in nonhuman primates. *J. Immunol.* **173**:6850.

Montefiori *et al.* (2004) Demographic factors that influence the neutralizing antibody response in recipients of recombinant HIV-1 gp120 vaccines. *J. Infect. Dis.* **190**:1962.

Lekkerkerker *et al.* (2004) Potency of HIV-1 envelope glycoprotein gp120 antibodies to inhibit the interaction of DC-SIGN with HIV-1 gp120. *Virology.* **329**:465.

Marin *et al.* (2004) Antigenic activity of three chimeric synthetic peptides of the transmembrane (gp41) and the envelope (gp120) glycoproteins of HIV-1 virus. *Prep. Biochem. Biotechnol.* **34**:227.

Prljic *et al.* (2004) Recombination property of the HIV-1 gp120 gene. *Int. Rev. Immunol.* **23**:447.

Metlas *et al.* (2004) HIV-1 gp120 and immune network. *Int. Rev. Immunol.*



HIV-1 Envelope

Human Immunodeficiency Virus 1 Antigen
recombinant, *E. coli*

23:413.

Gerber *et al.* (2004) Inhibition of HIV-1 envelope glycoprotein-mediated cell fusion by a DL-amino acid-containing fusion peptide: possible recognition of the fusion complex. *J. Biol. Chem.* **279**:48224.

Sanders *et al.* (2004) Evolution of the HIV-1 envelope glycoproteins with a disulfide bond between gp120 and gp41. *Retrovirology.* **1**:3.