

HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 p24 PROTEIN – RECOMBINANT (HIV-1 p24)

Abbreviations	HIV-1 p24
Accession Numbers	P04591
Source	<i>E. coli</i>
Applications	Critical reagent for quality control and calibrator material to support multiple applications including biosensors, clinical chemistry, ELISA assay, lateral flow.

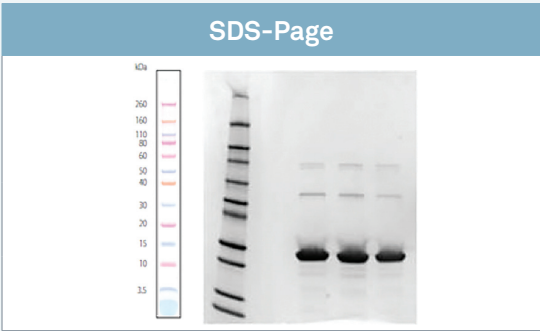
Protein Function	The HIV genome is packaged and organised in a conical capsid, which is made up of ~1,500 copies of the viral capsid protein p24. Being a primary structural component and due to its critical roles in both late and early stages of the HIV replication cycle, HIV-1 p24 has attracted increased interest as a drug discovery target in recent years.
Tissue Occurrence & Abundance	HIV-1 p24 is carried in the blood of people infected with HIV. It has been shown that a p24 antigen level of >5 pg/ml is predictive of disease progression with an accuracy comparable to that of CD4 lymphocyte count (<350 lymphocytes/mm ³) and HIV-1 RNA viral load >30,000 copies/ml, which are cut-offs used in guidelines for the initiation of antiretroviral therapy.
Function in Disease	Viral capsid protein p24 plays important roles in HIV pathogenesis. Peptides and small molecule inhibitors targeting p24 have shown to inhibit virus replication in treated cells. The p24 capsid protein plays important roles in both early and late stages of HIV-1 replication cycle. During the virus particle assembly, capsid domains interact with Gag polyprotein that undergoes proteolytic cleavage and transforms the immature particles to mature virions. Upon formation of mature virions, ~1,500 p24 monomers assemble into a lattice of p24 hexamers and pentamers that packages the viral RNA genome and other proteins.
Product information and application notes	<ul style="list-style-type: none"> Expressed in <i>E. coli</i> including leader sequence Complements our HIV p24 antibodies Recombinant production – reproducible and reliable Tested by ELISA format against BBI antibody matched pair Tested in a series of Clinical cut-off assays* Shows a positive response in lateral flow assays** <p>* Diluted to 17.5pg/ml in screened negative serum, showed positive results for HIV p24 on the Roche Elecsys HIV Duo, Biomerieux Vidas HIV Duo quick. ** Positive line for HIV p24 on Bio-Rad Geenius HIV 1 & 2 and Abbott (Alere) Determine HIV-1+2 Ag/Ab Combo.</p>
References	<ol style="list-style-type: none"> Teow, S. Y. et al. (2013) 'Production and purification of polymerization-competent HIV-1 capsid protein p24 (CA) in NiCo21(DE3) Escherichia coli', BMC Biotechnology, 13. doi: 10.1186/1472-6750-13-107. Mascarenhas, A. P. and Musier-Forsyth, K. (2009) 'The capsid protein of human immunodeficiency virus: Interactions of HIV-1 capsid with host protein factors', FEBS Journal, pp. 6118–6127. doi: 10.1111/j.1742-4658.2009.07315.x. Bonhoeffer, S., Coffin, J. M. and Nowak, M. A. (1997) 'Human immunodeficiency virus drug therapy and virus load', Journal of virology, 71(4), pp. 3275–8. Available at: http://www.ncbi.nlm.nih.gov/pubmed/9060694 %0Ahttp://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=PMC191463. Ali, S. A. et al. (2016) 'A cell internalizing antibody targeting capsid protein (p24) inhibits the replication of HIV-1 in T cells lines and PBMCs: A proof of concept study', PLoS ONE, 11(1). doi: 10.1371/journal.pone.0145986. Willows, S., Hou, S. and Hobman, T. C. (2013) 'RNA virus capsid proteins: More than just a shell', Future Virology, pp. 435–450. doi: 10.2217/fvl.13.32. Ganser-Pornillos, B. K., Yeager, M. and Pornillos, O. (2012) 'Assembly and architecture of HIV', Advances in Experimental Medicine and Biology, 726, pp. 441–465. doi: 10.1007/978-1-4614-0980-9_20.

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HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 P24 SURFACE RECOMBINANT ANTIGEN (HIV-1 P24)

WHY BBI?

- + Our production facilities allow us to offer **large batch sizes** in multi mg quantities.
- + **ISO13485:2016** audited facilities and access to many diverse testing platforms, providing you with product confidence and the analytical results you need.
- + With over 25 years' experience sourcing human biologicals at our HTA approved site and clean-in place bioreactors for recombinant protein manufacture; you can be confident in a **secure supply**.

Product Details	Total protein by Bradford method 5mg/ml, purity by Coomassie stained 4-20% SDS-PAGE is > 96%.												
Formulation and storage	20mM TRIS Buffer / Containing; 10% Glycerol, 100mM NaCl and 5mM DTT at pH 7.5. Optimal storage at <-60°C.												
Product Testing Data	Coomassie stained 4-20% SDS-PAGE;												
		<table border="1"> <thead> <tr> <th>Lane</th> <th>Sample Details</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Novex Standard</td> </tr> <tr> <td>2</td> <td>4594-20 0.5mg/ml (Reduced)</td> </tr> <tr> <td>3</td> <td>4597-20 0.5mg/ml (Reduced)</td> </tr> <tr> <td>4</td> <td>4598-20 0.5mg/ml (Reduced)</td> </tr> </tbody> </table>	Lane	Sample Details	1	Novex Standard	2	4594-20 0.5mg/ml (Reduced)	3	4597-20 0.5mg/ml (Reduced)	4	4598-20 0.5mg/ml (Reduced)	
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Dispensations	P714-3 <ul style="list-style-type: none"> • 100µg • 1mg 												

ORDERING DETAILS - USE THE FOLLOWING CODES WHEN ORDERING

Product	Code	Description
Recombinant HIV-1 p24 Antigen	P714-3	> 96% pure Supplied in TRIS buffer Recombinant from E. coli

Related Products	Code
HIV-1 p24 Monoclonal Antibody	MAB246P
HIV-1 p24 Monoclonal Antibody	MAB247P
HIV-1 p24 Monoclonal Antibody	MAB248P
HIV-1 p24 Monoclonal Antibody	MAB249P

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