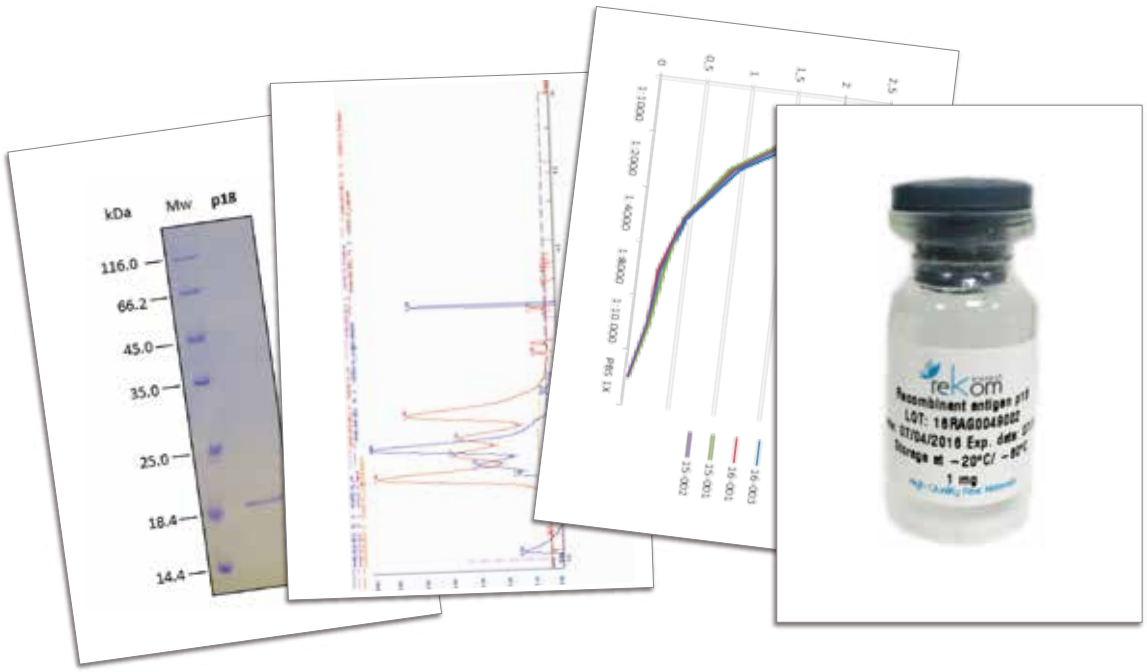
rekom biotech

High Quality Raw Material
for IVD Manufacturing Industry

Recombinant antigen p18 for Epstein-barr virus

p18 is a viral capsid antigen (VCA) of 18 kDa codified by the BFRF3 gene. Antibodies to VCA are found both in early and late EBV infection. At the time of infection, antibodies of both the IgM and IgG types are detectable. After four to six months, usually, only the IgG antibody against VCA can be found. For this reason, VCA-p18 can be considered to be the best dominant immunoreactive antigen for use in IgM VCA diagnosis (Wout *et al.*, 1993, J. of Virology, p. 3908-3916).

Detection of IgM antibody to the Viral Capsid Antigen (VCA) is the most useful test for the acute infection, and the IgG antibody for VCA is also seen within a few weeks of the onset of clinical symptoms and typically persists for life. In situations where the clinical status is unclear, avidity testing of anti-VCA IgG or anti-EBNA1 IgG is often helpful. In areas where nasopharyngeal carcinoma is common, the measurement of IgA antibodies to VCA and EBNA1 has been helpful to stablish that diagnosis.



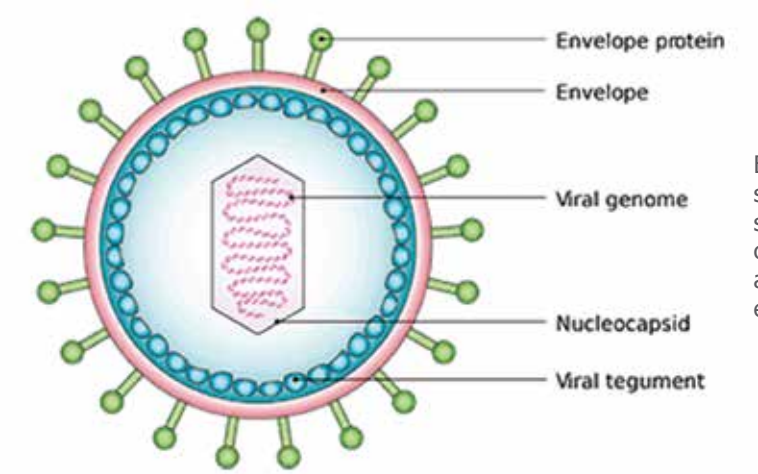
REFERENCE	ANTIGEN	APPLICATION	PACK SIZE
RAG0049	p18 (VCA)	IgG indirect ELISA	0.1 mg to 1 mg; bulk

The Rekom Biotech recombinant antigen p18 has a 86% success rate in evaluations of recombinant antigen p18 (RAG0049) for the development of a diagnostic assay.

Epstein-barr virus infection

EBV, also called human herpes virus 4, belongs to the herpesvirus family. EBV was first identified in 1964 by Epstein's group in a cell line derived from Burkitt's lymphoma. Sero-epidemiologic studies indicate that more than 90% of adults worldwide are infected with EBV. In developing countries, infection occurs early in life, and most early childhood infections are subclinical. In more affluent Western societies, when primary infection is delayed until later childhood or adolescence, it manifests in approximately 25–75% of cases as infectious mononucleosis. The primary site of EBV infection is the oropharynx and the virus is capable of infecting both B cells and epithelial cells and switching between the two. As many as 20-30% of healthy adults who are previously infected with EBV, shed the virus in low concen¬trations in oral secretions. EBV is also found in female and male genital secretions and can be transmitted by sexual contact.

Also, EBV is the first human virus to be directly implicated in carcinogenesis. In some people, the latent virus is capable of causing malignant tumours, such as nasopharyngeal carcinoma and various B- and T-cell lymphomas, at sites including the head, neck and oropharyngeal region.

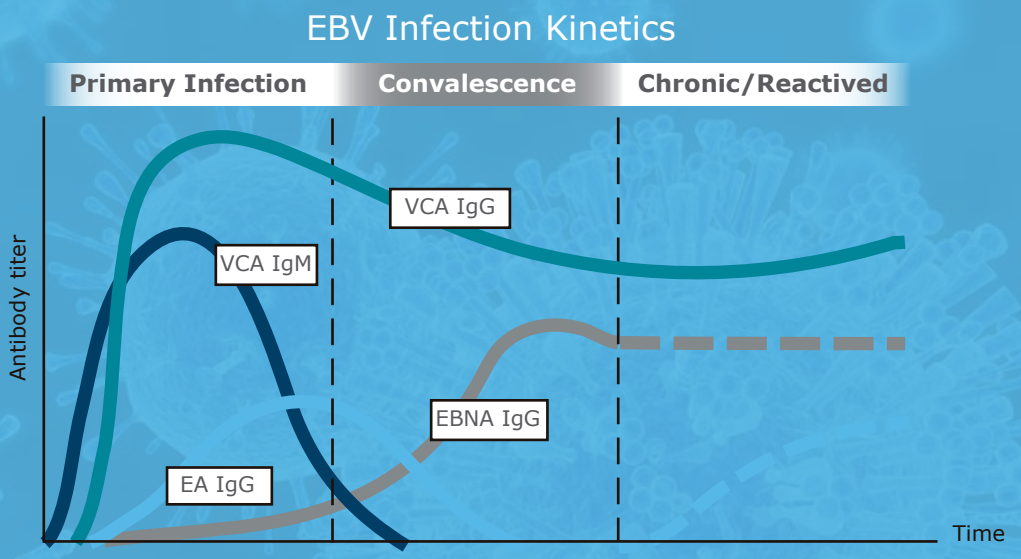


EBV is an enveloped virus with a DNA core surrounded by a protein capsid. This capsid is surrounded by a protein tegument, which in turn is contained in a lipid envelope. The EBV genome is a linear, double stranded DNA molecule that encodes more than 85 genes.

Infection by EBV results in the production of antibodies to 4 distinct antigen complexes: EBV-induced nuclear antigen (EBNA), EBV-induced early antigen (EA), viral capsid antigen (VCA) and EBV-induced membrane antigen (MA).

The six EBV capsid proteins are BcLF1 (major capsid protein), BORF1 (triplex 1), BDLF1 (triplex 2), BdRF1 (scaffold protein), BVRF2 (protease), and BFRF3 (small capsid protein).

The small capsid protein codifies a 18 kDa-protein which is a highly prevalent target for antibody responses.



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