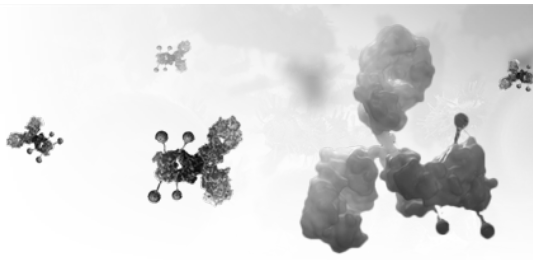

Recombinant EBV Nuclear Antigen 1 [GST] (DAG3925)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Product Overview	Recombinant Epstein-Barr Virus Nuclear Antigen 1, GST-Tagged
Species	EBV
Purity	EBV-EBNA1 protein is greater than 95% pure as determined by 10% PAGE (coomassie staining). EBV-EBNA1 was purified by proprietary chromatographic technique.
Conjugate	GST
Applications	ELISA and Western blots, excellent antigen for detection of HHV-4 (EBV) with minimal specificity problems
Preservative	None
Storage	2-8°C short term, -20°C long term

BACKGROUND

Introduction	The Epstein-Barr virus (EBV) is a human pathogenic virus belonging to the Herpesvirus family. It occurs worldwide and, in common with all Herpesviruses, the prevalence in the general population is high, reaching 90 to 95 % in the adult population. In the so called developing countries, primary infection is generally in the first year of life and is often asymptomatic. In contrast, in countries with high standards of hygiene primary infection occurs mainly in teenagers and young adults. The peak age for infection is between 15 and 20 years and around 50 % of those infected will develop an infectious mononucleosis. Transmission is primarily through exchange of saliva although other routes are possible such as from blood products or bone marrow transplantation. During a primary infection the salivary glands are initially involved and virus reaches the nose and throat via the saliva. At this stage, the symptoms of infection are flu-like. The virus is disseminated throughout the body by infected B lymphocytes, which

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are normally regulated by the immune system but are stimulated to proliferate by the virus. These infected B lymphocytes in the peripheral blood are characteristically atypical with a variable shape, distinctly basophile cytoplasm and an obvious nucleus. As the disease progresses it may manifest as high fever, splenomegaly, lymphadenitis, thrombocytopenia, and hepatitis. Due to the virus's dissemination and transmission strategy, primarily via saliva, infectious mononucleosis (IM) or glandular fever has also been called the "kissing disease". In rare cases an acute IM infection can lead to a chronic active disease state. In such cases the symptoms of IM may continue for a considerable time period. The pathogenesis of this complication is unclear although genetic predisposition and/or infection with a particularly lytic strain of virus are suspected. Another rare disease state is chronic IM which, in contrast to chronic acute infection, following resolution of symptoms and a period of latency, possibly lasting several years, reactivates with sometimes fatal consequences. The reasons and causes behind such cases are unclear. Some genetic disorders such as XLPS (x-linked lymphoproliferative syndrome) can result in uncontrolled B cell proliferation following infection with EBV and frequently lead to chronic infection. Medical suppression of the immune system such as used in transplant patients may lead to the reactivation of latent virus or a increased likelihood of primary infection can lead to an EBV induced transplant rejection. AIDS patients are also, as a consequence of their underlying immune disease, more susceptible to infection and reactivations. In certain geographical regions EBV is closely associated with the incidence of nasopharyngeal carcinoma. This carcinoma of the pharynx, nose and throat consists of undifferentiated epithelial cells and has a propensity for metastasis. This disease occurs globally but is particularly common in certain regions of south China. Genetic predisposition as well as environmental aspects such as diet are under discussion as cofactors. Burkitt´s lymphoma (BL) is also a tumor associated with EBV, primarily in the geographical regions of Africa and Papua New Guinea. This monoclonal B-cell tumor is also linked to areas with high incidence of malaria and over 90 % of such tumors show evidence of the E-B virus. The influence of plasmodium infection on the immune response brings the role of malaria as a cofactor for BL into discussion. Sporadic cases of BL in other regions do occur, however in such cases EBV is much less commonly detected and other cofactors such as genetic changes through chromosome translocation are thought to be responsible for the tumour. The antibody response to EBV infection is extremely variable as a consequence of the complexity of the virus and the heterogeneous of the various stages of infection. During the active phase of infection, antibodies directed at approximately 100 different viral antigens are produced. This drops to around 10 during latent infection (EBNA 1-6, Late Membrane Proteins 1-3). With this background there has been a trend towards the development of antibody detection systems which utilise single components / proteins rather than the complete virus. In this way it is possible to correlate the production of antibodies to certain antigens with the different disease phases and disease progression.

Keywords EBNA1; Epstein-Barr nuclear antigen 1

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