PROMISING EFFECTIVE & SAFE EPSTEIN-BARR VIRUS (EBV) VACCINE BASED ON VLPS

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HINTERGRUND

Epstein-Barr virus (EBV) is the most common etiological agent of infectious mononucleosis (IM) and a major cause of virus-associated human cancers, predominantly lymphomas and carcinomas. EBV infection mostly occurs in early childhood and remains usually asymptomatic. However, in highly developed countries up to 50% of adolescents remain EBV-negative. Delayed EBV infections often lead to the development of IM with a median duration of 16 days and only gradual recovery. Long-lasting fatigue for several month interferes with productivity and diminishes the quality of life. Following primary infection, EBV establishes a clinically silent persistent B-cell infection in healthy individuals. Immunsuppression, typically in the setting of organ transplantation or after HIV infection, often results in increased EBV loads and a higher risk of developing EBV-associated diseases. Therefore, many efforts have been devoted to the development of prophylactic and therapeutic EBV vaccines, but up to now, with limited success. We have developed EBV virus-like particles (VLPs) that express a wide spectrum of structural viral proteins and elicit a potent cytotoxic CD4-positive T-cell response. In the present invention DKFZ inventors knocked out two proteins involved in DNA packaging. This allows the production of VLPs completely devoid of viral DNA that offer a safe and effective preventative vaccine against EBV infection.

LÖSUNG

In the present invention, DKFZ inventors used recombinant technology to excise two proteins (BBRF1 and BFLF1) involved in DNA packaging.

VORTEILE

- Prevention of EBV-associated malignancies
- New VLPs devoid of viral DNA (infectious and contaminating DNA)

ANWENDUNGSBEREICHE
DKFZ is looking for an industrial partner to further develop the preventive vaccine based on the VLPEBVs.

**PUBLIKATIONEN & VERWEISE**