



## EBV ANTIBODY & VACCINE

# EBV Neutralizing Antibody and Vulnerability Site for Vaccine Design

## Brief Description of Technology

A human monoclonal antibody that neutralizes EBV infections in both B cells and epithelial cells, and new approaches to developing an EBV vaccine.

### BUSINESS OPPORTUNITY

Exclusive license  
Sponsored research  
Start-up

### TECHNOLOGY TYPE

Therapeutic  
Antibody  
Vaccine

### STAGE OF DEVELOPMENT

Preclinical *in vivo*

### PATENT INFORMATION

Patent pending

### INVESTIGATOR

**Andrew McGuire, PhD**  
Vaccine & Infectious Disease  
Division

### LEARN MORE

Tech ID: 17-071  
[partnering@fredhutch.org](mailto:partnering@fredhutch.org)  
206-667-4304

## Technology Overview

Dr. McGuire and colleagues have isolated a human monoclonal antibody that binds the gH/gL protein on Epstein-Barr virus [EBV]. This antibody, called AMM01, can neutralize infections in B cells and epithelial cells, the two types of cells infected by EBV. Existing antibodies only neutralize infection in one of the cell types [B cell or epithelial cell]; however, AMM01 neutralizes infections in both cell types and is a human-derived antibody. A crucial epitope of EBV vulnerability, formed by both gH and gL at the Domain-I/Domain-II interface, was identified and paves the way for the design of next-generation subunit vaccines.

## Applications

- Antibody neutralizes EBV B cell and epithelial cell infection
- Therapeutic to treat post-transplant lymphoproliferative disease
- EBV vaccine design

## Advantages

- Human derived - safer alternative to murine originating antibodies
- Neutralizes infections in both B cells and epithelial cells
- New epitope of EBV vulnerability

## Market Overview

Epstein-Barr virus [EBV], also known as human herpesvirus 4, is one of the most common viruses in humans. Approximately 95% of adults worldwide are infected with EBV. It is a major cause of infectious mononucleosis and is associated with several types of cancer including Hodgkin's lymphoma, Burkitt's lymphoma, nasopharyngeal carcinoma, gastric cancer, hairy leukoplakia, and central nervous system lymphomas associated with HIV. Each year, up to 200,000 new cases of cancer and approximately 143,000 cancer deaths may be attributable to EBV. Gastric cancer and nasopharyngeal carcinoma account for approximately 92% of EBV-attributable cancer deaths.