

## Vaccinia Virus B18R/B19R Protein (His)

### General Information

Protein Construction:	A DNA sequence encoding the B18R (P25213) (Met1-Glu351) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: His 20
Species:	VACV
Expression Host:	Baculovirus Insect Cells
Accession:	P25213
Molecular Weight:	39.86 kDa (predicted); 46 kDa (reducing condition, due to glycosylation)

### QC Testing

Biological Activity:	Measured by its ability to neutralize B18R-mediated inhibition of WISH cell pathology, IFNA2 can bind to B18R and counteract its inhibitory effect. The neutralization rate, reflecting the activity of B18R, is calculated by measuring cell viability using the MTT assay. The ED50 for this effect is 0.16-1.2 ng/mL.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

**Reconstitution:**  
Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

B18R is a type I interferon (IFN)-binding protein, which is encoded by the B18R open reading frame in the WR (Western Reserve) strain of vaccinia virus. It is also known as B19R in the Copenhagen strain of Vaccinia. B18R exists in a soluble and a membrane-bound form. As a type I IFN receptor, B18R has a broad species specificity. It has high affinity for human IFN-alpha and also binds rabbit, bovine, rat, pig, and mouse IFN-alpha and IFN-beta.

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It has been shown that secreted B18R binds to uninfected and infected cells. It presents at the cell surface and protects cells from the antiviral state induced by IFN-alpha and IFN-beta. Binding of soluble recombinant B18R protects cultured cells from IFN and allows vaccinia virus replication.

### Reference

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