Recombinant Viral B8R

Catalog Number: 8225-BR/CF

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived Lys18-Ser272, with a C-terminal 6-His tag Accession # P24770
N-terminal Sequence Analysis	Lys18
Structure / Form	Noncovalently-linked homodimer
Predicted Molecular Mass	30 kDa (monomer)

SPECIFICATIONS

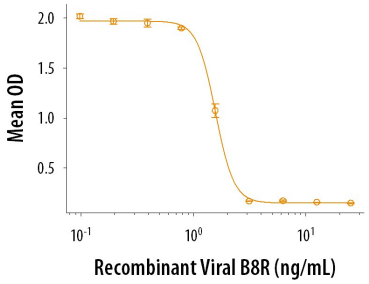
SDS-PAGE	37-43 kDa, reducing conditions
Activity	Measured by its ability to inhibit rhIFN-γ mediated protection of HeLa human cervical epithelial carcinoma cells to viral lysis. Meager, A. (1987) in Lymphokines and Interferons, a Practical Approach. Clemens, M.J. *et al.* (eds): IRL Press. 129. Th ED_{50} for this effect is 0.5-3 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE with silver staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

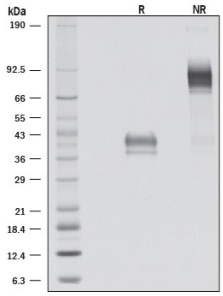
DATA

Bioactivity



B8R Inhibits IFN-gamma Activity. The viral receptor B8R inhibits IFN-gamma-mediated protection of HeLa human cervical epithelial carcinoma cells to viral lysis. The ED_{50} for this effect is 0.5-3 ng/mL.

SDS-PAGE



1 µg/lane of Recombinant Viral B8R (Catalog # 8225-BR/CF) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by silver staining, showing R bands at 37-43 kDa and NR bands at 67-92 kDa.

BACKGROUND

B8R is a secreted Interferon gamma (IFN-γ) binding protein encoded by the open reading frame of the *Vaccina* virus (smallpox) (1, 2). B8R is a 43 kDa protein and shares only 19% amino acid sequence identity with the extracellular region of the human IFN-gamma Receptor 1 (IFN-γ R1). However, B8R binds IFN-γ orthologs from multiple species including human, rat, rabbit, bovine, and chicken with high affinity, but it binds mouse IFN-γ with low affinity (1, 3, 4). During infection, virally-induced B8R binds and sequesters endogenous IFN-γ, thereby suppressing the host immune response and promoting viral immune evasion (5). While B8R is not required for viral replication, it contributes significantly to *Vaccinia* virus virulence and is frequently inactivated prior to *Vaccinia* use in vaccines (5-9). Peptide IFN-γ mimetics that activate IFN-γ R1 and are not bound and sequestered by B8R have been developed for research and therapeutic use (10, 11).

References:

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