

Cytokines

Recombinant B18R Protein



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B18R protein

Catalog #	78075	50 µg	0.5 mg/mL
	78075.1	500 µg	0.5 mg/mL

Product Description

The B18R protein, which is encoded by the B18R open reading frame in the Western Reserve (WR) strain of vaccinia virus, is a type I interferon (IFN)-binding protein that is known to inhibit IFN antiviral response (Colamonici et al.). B18R protein has been shown to exhibit neutralizing activity to type I interferon family members (Meyers et al.) and to protect cells from the antiviral effects of interferon (Vancová et al.). It was recently shown that HIV-1-dependent induction of type I IFN activity and BAFF protein levels was abrogated by the soluble B18R protein, with no effect observed on the cell viability (Gomez et al.). B18R protein has been reported to aid in cellular reprogramming using RNA-mediated gene delivery (Warren et al.; Yoshioka et al.).

Product Information

Alternative Names:	Type I IFN inhibitor, Vaccinia virus-encoded neutralizing type I interferon receptor
Accession Number:	D01019
Amino Acid Sequence:	MTMKMMVHIY FVSLLLLLFH SYAIDIENEI TEFFNKMRTD LPAKDSKWLN PACMFGGTMN DIAALGEPFS AKCPPIEDSL LSHRYKDYVV KWERLEKNRR RQVSNKRVKH GDLWIANYTS KFSNRRYLCT VTTKNGDCVQ GIVRSHIRKP PSCIPKTYEL GTHDKYGIDL YCGILYAKHY NNITWYKDNK EINIDDIKYS QTGKELIHN PELEDGRYD CYVHYDDVRI KNDIVVSRCK ILTVIPSQDH RFKLILDPKI NVTIGEPANI TCTAVSTSL IDDLIEWEN PSGWLIGFDF DVYSVLTSRG GITEATLYFE NVTEEYIGNT YKCRGHNYF EKTLLTTTVL E
Predicted Molecular Mass:	38.4 kDa
Species:	Vaccinia virus
Cross Reactivity:	Human, mouse, rat, cow, pig, and rabbit type I IFN receptors
Formulation:	Sterile-filtered liquid containing phosphate and sodium chloride, pH 7.5.
Source:	Insect cells

Specifications

Activity:	The specific activity is $\geq 1.3 \times 10^6$ units/mg as determined by a neutralization assay of recombinant mouse IFN-alpha 2 protein.
Purity:	$\geq 98\%$
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 0.01 ng/µg protein.

Preparation and Storage

Storage:	Store at -80°C.
Stability:	Stable until expiry date (EXP) on label.
Preparation:	Thaw at room temperature (15 - 25°C). Once thawed, use immediately or aliquot and store at -80°C. Do not exceed expiry date as indicated on label. After thawing aliquots, use immediately. Do not re-freeze.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

- Colamonici OR et al. (1995) Vaccinia virus B18R gene encodes a type I interferon-binding protein that blocks interferon alpha transmembrane signaling. *J Biol Chem* 270(27): 15974–8.
- Gomez AM et al. (2015) HIV-1-triggered release of type I IFN by plasmacytoid dendritic cells induces BAFF production in monocytes. *J Immunol* 194(5): 2300–8.
- Meyers JA et al. (2006) Blockade of TLR9 agonist-induced type I interferons promotes inflammatory cytokine IFN-gamma and IL-17 secretion by activated human PBMC. *Cytokine* 35(5-6): 235–46.
- Vancová I et al. (1998) Vaccinia virus protein B18R inhibits the activity and cellular binding of the novel type interferon-delta. *J Gen Virol* 79 (Pt 7): 1647–9.
- Warren L et al. (2010) Highly efficient reprogramming to pluripotency and directed differentiation of human cells with synthetic modified mRNA. *Cell Stem Cell* 7(5): 618–30.
- Yoshioka N et al. (2013) Efficient generation of human iPSCs by a synthetic self-replicative RNA *Cell Stem Cell* 13(2): 246–54.

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