

Interferon-beta 1b Active Protein | IFNB1 active protein

Human Interferon-beta 1b Recombinant

CATALOG #	HOST
AAA76387	Chinese Hamster Ovary cells (Note: Host protein expression may be lot-specific and can be subject to change during production, including bulk orders.)

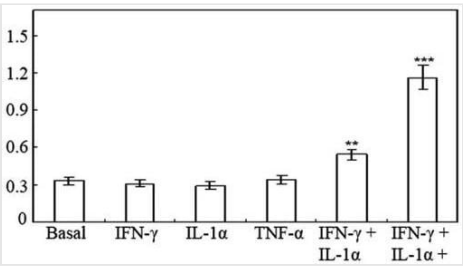
PRODUCT SYNONYMS

Interferon-beta 1b; Human Interferon-beta 1b Recombinant; IFNB1 active protein

PRODUCT SPECIFICATIONS

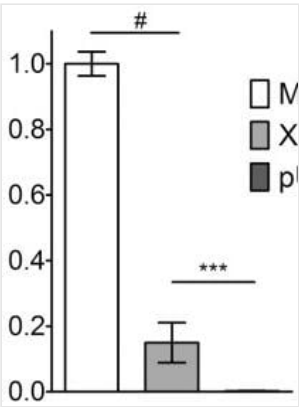
Host	Chinese Hamster Ovary cells (Note: Host protein expression may be lot-specific and can be subject to change during production, including bulk orders.)
Purity/Purification	>95%, as determined by SDS-PAGE and HPLC
Form/Format	Interferon betabwas lyophilized from a 0.2 um filtered solution containingmM NaOAc pH.5.
Sequence	MTNKCLLQIA LLLCFSTTAL SMSYNLLGFL QRSSNFQCQK LLWQLNGRLE YCLKDRMNFD IP EEIKQLQQ FQKEDAALTI YEMLQNIFAI FRQDSSSTGW NETIVENLLA NVYHQINHLK TVLEEKLEKE DFTRGKLMSS LHLKRYYGRI LHYLKAKEYS HCAWTIVRVE ILRNFYFINR LTGYLRN
Source	Optimized DNA sequence encoding Human beta Interferon 1b mature chain was expressed in Chinese Hamster Ovary cells.
Endotoxin	Endotoxin content was assayed using a LAL gel clot method. Endotoxin level was found to be less than 0.1 ng/ug (1EU/ug).
Biological Activity	Theactivity was determined by the cytopathic inhibition assay of human WISH cells infected with the ECMV virus, and determined to be 1x10 ⁷ IU/mg.

Method	Islet isolation, culture, and exposure to different beta-cell inhibitory substancesFollowing the initial culture period, islets were cultured for an additional 6-24 hours in CMRL 1066 containing antibiotics, 2 mM glutamine and one of the following supplements: 0.5 mM sodium palmitate solubilized in 0.5% (weight/volume) fatty acid and lipopolysaccharide free bovine serum albumin (BSA) ; recombinant human Interleukin 1beta (IL-1beta (50 units/ml) and Interferon-gamma (IFN-gamma) (1,000 units/ml) ; 100 mM hydrogen peroxide; 2 mM DETA/NO or 10 mM streptozotocin (STZ). To some of the groups 10 uM of Imatinib was added at different time points prior to the addition of test substances given above. To controls equal amounts of vehicle (DMSO) were supplemented.Western blotting for NF-kappaB, IkappaB-alpha and Smad7Interferon gamma (IFN-gamma) 50 ul (100 ng/ml) was added to each dish in the experimental studies. The cytoplasmic and nuclear extracts were washed with ice-cold PBS and lysed in a 0.5 ml/well lysis buffer (150 mmol/l NaCl, 20 mmol/l Tris, pH 7.5, 0.1% Triton X-100, 1 mmol/l phenylmethylsulfonyl fluoride [PMSF] and 10 ug/ml aprotinin) as modified from the reports of Kim et al.and Moon et al.CIK induction and intravenous infusion Venous blood was collected prior to chemotherapy or at least one month following chemotherapy. For the offspring (HLA haploidentical donors), the routine blood tests, and liver and kidney function tests were normal and negative for hepatitis A virus-IgM, hepatitis B surface antigen antibody, hepatitis B e--hepatitis B core-hepatitis C virus (HCV)-HCV-IgG, Syphilis-and human immunodeficiency virus-.As reported in our previous study (2 atmosphere. On the day of culture, 1,000 U/ml human recombinant interferon-gamma, 500 U/ml recombinant human interleukin (rhIL)-1alpha and 1,000 U/ml rhIL-2 (Quangang Pharmaceutical Co.,,,) were added. Four days later, 1,000 U/ml rhIL-2 was added and the cells were transferred into a GT-T610 culture bag. Cell growth was observed every other day and cells were stained with 0.4% trypan blue and the viable cells were counted.Following 18 days of culture, cells were infused once daily (>1×10⁹ cells; viability rate, >95%). A cycle of treatment comprised of between three and five infusions and >5×10⁹ cells were infused per cycle. Prior to infusion, the surface immunophenotype of CIKs was determined by a standard fluorescence cytometry labeling protocol using fluorochrome-conjugated monoclonal mouse anti-human antibodies against CD3, CD8, CD4, CD45, CD19 and CD16CD56.Assays for the detection of bacteria, mildew and endotoxin were performed. Briefly, the presence of bacteria and mildew was investigated by incubating cultured CIKs on agar at 37 degree C, with subsequent inspection for the growth of microbial contaminants. Endotoxin levels were determined using a chromogenic endotoxin assay kit (Crab Reagent Manufactory,,,,), according to the manufacturer's instructions. Only sterile and endotoxin-free preparations were used clinically.Invasion assayCell migration through Matrigel-coated filters was measured using Transwell chambers with 8 um-pore polycarbonate filters coated with Matrigel matrix as previously described (4 cells/well in the upper compartment of each invasion chamber and incubated for 24 h in the absence or presence of 100 U/ml interferon (IFN)-gamma, 10 ng/ml interleukin (IL)1-alpha or 25 ng/ml tumor necrosis factor (TNF)-alpha, plus extract of Cnidiihizoma (0.1-5 mg/ml) or 1400W (0.5 mM). Non-migrating cells on the upper surface of the membrane were gently scrubbed with a cotton swab, and the invading cells on the lower surface were fixed with 100% methanol and stained with hematoxylin and eosin Y solution (RICCA Chemical Company, Charlotte, NC, USA). The number of cells was counted under a microscope at a magnification of ×100.
Molecular Function	Cytokine
Reconstitution	A quick spin of the vial followed by reconstitution in distilled water to a concentration not less than 0.1 mg/mL. This solution can then be diluted into other buffers.
Preparation and Storage	The lyophilized protein is stable for at least years from date of receipt at-20 degree C. Upon reconstitution, this cytokine can be stored in working aliquots at 2 degree -8 degree C for one month, or at-20 degree C for six months, with a carrier protein without detectable loss of activity. Avoid repeated freeze/thaw cycles.



Application Data

A) Nitrite production by HT-29 cells following 48 h of treatment with cytokines. Effect of 0–50 ng/ml TNF- α on nitrite production induced by 100 U/ml IFN- γ and 10 ng/ml IL-1 α in HT-29 cells following 48 h of treatment.



Application Data

Replicative control of HCV in JFH-1/Huh7.5.1 system with conditioned media (CM) from pU/UC-transfected pDC-GEN2.2 cells. E) Recombinant Type III Interferons in the absence of CM at the same concentrations as found in the CM (IL-28A/IFN γ 2: 1500 pg/mL; IL-28B/IFN γ 3: 10 pg/mL; IL-29/IFN γ 1: 500 pg/mL) were added to JFH-1 infected Huh7.5.1 cells.

ADDITIONAL INFORMATION

Product Categories/Family for IFNB1 active protein	Interferon-IL10 family; Recombinant Human Cytokines
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NCBI AND UNIPROT INFORMATION

NCBI GI #	4504603
NCBI GeneID	3456
NCBI Accession #	NP_002167.1
NCBI GenBank Nucleotide #	NM_002176.2
UniProt Accession #	P01574
Molecular Weight	22,294 Da
NCBI Official Full Name	interferon beta
NCBI Official Synonym Full Names	interferon, beta 1, fibroblast
NCBI Official Symbol	IFNB1
NCBI Official Synonym Symbols	IFB; IFF; IFNB
NCBI Protein Information	interferon beta; IFN-beta; fibroblast interferon
UniProt Protein Name	Interferon beta
UniProt Gene Name	IFNB1
UniProt Synonym Gene Names	IFB; IFNB; IFN-beta
UniProt Entry Name	IFNB_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.