Recombinant Mouse Epidermal Growth Factor (rm EGF)

Synonyms: Urogastrone, URG.

Introduction: Epidermal growth factor has a profound effect on the differentiation of specific cells in vivo and is a potent mitogenic factor for a variety of cultured cells of both ectodermal and mesodermal origin. The EGF precursor is believed to exist as a membrane-bound molecule which is proteolytically cleaved to generate the 53-amino acid peptide hormone that stimulates cells to divide. EGF stimulates the growth of various epidermal and epithelial tissues in vivo and in vitro and of some fibroblasts in cell culture.

Description: Recombinant mouse Epidermal Growth Factor produced in *E.Coli* is a single, non-glycosylated, polypeptide chain containing 53 amino acids including 3 intramolecular disulfide-bonds and having a molecular mass of 6 kDa. The EGF is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli.*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: The protein was lyophilized with no additives.
The aliquots of 1µg contain Trehalose 5% (w/vol) for better recovery.

Solubility: It is recommended to reconstitute the lyophilized rm EGF in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm EGF, although stable at room temperature for 3 weeks, should be stored desiccated below –18° C. Upon reconstitution rm EGF should be stored at 4° C between 2-7 days and for future use below –18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 98.0% as determined by RP-HPLC and by SDS-PAGE

Amino acid Sequence: The sequence of the first five N-terminal amino acids was determined and was found to be Asn-Ser-Tyr-Pro-Gly, which agrees with the sequence of native Epidermal Growth Factor human.

Biological Activity: The ED50, calculated by the dose-dependant proliferation of murine BALB/c 3T3 cells (measured by ^{3}H-thymidine uptake) is < 0.1 ng/ml.

Protein content: Protein quantitation was carried out by two independent methods:
1.) UV spectroscopy at 280 nm using the absorbency value of 3 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).
2.) Analysis by RP-HPLC, using a calibrated solution of EGF as a Reference Standard.

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small	100 µg	Cat.N°	12343406
medium	500 µg	Cat.N°	12343407

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Recombinant Mouse Eotaxin (rm CCL11)

Synonyms: Small inducible cytokine A11, SCYA11, Eosinophil chemotactic protein, chemokine (C-C motif) ligand 11

Introduction: Eotaxin is a small cytokine belonging to the CC chemokine family. It selectively recruits eosinophils by inducing their chemotaxis and is therefore implicated in allergic responses. The effects of Eotaxin are mediated by its binding to a G-protein-linked receptor known as a chemokine receptor. Chemokine receptors for which Eotaxin is a ligand include CCR2, CCR3 and CCR5. The gene for human Eotaxin is encoded on three exons and is located on chromosome 17.

Description: Recombinant murine Eotaxin produced in *E.Coli* is a single, non-glycosylated, polypeptide chain containing 74 amino acids and having a molecular mass of 8.4 kDa. The rm Eotaxin is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli.*

Physical Appearance: Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation: The protein was lyophilized from 1 mg/ml solution in water containing no additives.
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm Eotaxin in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm Eotaxin, although stable at room temperature for 3 weeks, should be stored desiccated below –18° C. Upon reconstitution rm Eotaxin should be stored at 4° C between 2-7 days and for future use below –18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 98.0% as determined by RP-HPLC and by reducing and non-reducing SDS-PAGE Silver stained gel.

Amino acid Sequence: The sequence of the first five N-terminal amino acids was determined and was found to be His-Pro-Gly-Ser-Ile.

Biological Activity: The activity is determined by its ability to induce chemotaxis purified eosinophils at a concentration of 100-1000 ng/ml.

Endotoxicity: Less than 0.1 ng/µg (IEU/µg) of rm Eotaxin.

small	2 µg	Cat.N°	12343212
medium	10 µg	Cat.N°	12343213
large	50 µg	Cat.N°	12343215
x-large	250 µg	Cat.N°	12343217

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Recombinant Mouse Fibroblast Growth Factor-acidic (rm FGF-a / FGF-1)

Synonyms: HBGF-1, ECGF-beta, FIBP, FGFIBP, FIBP-1, ECGF, ECGFA, GLIO703.

Introduction: Acidic fibroblast growth factor is a member of the fibroblast growth factor (FGF) family. FGF family members possess broad mitogenic and cell survival activities, and are involved in a variety of biological processes, including embryonic development, cell growth, morphogenesis, tissue repair, tumor growth and invasion. This protein functions as a modifier of endothelial cell migration and proliferation, as well as an angiogenic factor. It acts as a mitogen for a variety of mesoderm- and neuroectoderm-derived cells in vitro, thus is thought to be involved in organogenesis. Three alternatively spliced variants encoding different isoforms have been described. The heparin-binding growth factors are angiogenic agents in vivo and are potent mitogens for a variety of cell types in vitro. There are differences in the tissue distribution and concentration of these 2 growth factors.

Description: rm Fibroblast Growth Factor-acidic produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 141 amino acids and having a molecular mass of 15.9 kDa.
The FGF acidic is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in 5mM NaP + 50mM NaCl, pH-7.5.
The sample size of 1µg contains Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm FGF-a in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm FGF-a, although stable at room temperature for 3 weeks, should be stored desiccated below –18° C. Upon reconstitution rm FGF-a should be stored at 4° C between 2-7 days and for future use below –18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Amino acid sequence: MFNLPLGNYK KPKLLYCSNG GHFLRILPDG TVDGTRDRSD QHIQLQLSAE SAGEVYIKGT ETGQYLAMDT EGLLYGSQTP NEECLFLERL EENHYNTYTS KKHAEKNWFV GLKKNGSCKR GPRTHYGQKA ILFLPLPVSS D.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Biological Activity: The ED_{50} as determined by the dose-dependent stimulation of thymidine uptake by 3T3 cells in the presence of heparin is ≤ 0.5 ng/ml corresponding to a specific activity of ≥ 2 x 10^6 units/mg.

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small	10 µg	Cat.N°	12343553
medium	50 µg	Cat.N°	12343555
large	250 µg	Cat.N°	12343557
x-large	1000 µg	Cat.N°	12343558

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Recombinant Mouse Fibroblast Growth Factor-basic (rm FGF-b / FGF-2)

Synonyms: HBGH-2, HBGF-2, Prostatropin.

Introduction: FGF-basic is a member of the fibroblast growth factor (FGF) family. FGF family members bind heparin and possess broad mitogenic and angiogenic activities. FGF-b has been implicated in diverse biological processes, such as limb and nervous system development, wound healing and tumor growth. The mRNA for this gene contains multiple polyadenylation sites and is alternatively translated from AUG and non-AUG (CUG) initiation codons resulting in five different isoforms with distinct properties. The CUG-initiated isoforms are localized in the nucleus and are responsible for the intracrine effect, whereas the AUG-initiated form is mostly cytosolic and is responsible for the paracrine and autocrine effects of FGF-b. The heparin-binding growth factors are angiogenic agents in vivo and are potent mitogens for a variety of cell types in vitro. there are differences in the tissue distribution and concentration of these 2 growth factors.

Description: Recombinant mouse FGF-basic (FGF-2) produced in *E.Coli* is a single, non-glycosylated poly-peptide chain containing 145 amino acids and having a molecular mass of 16320 Dalton. The rm FGF-basic is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in 25 mM sodium acetate, 200 mM NaCl, pH 7.5
The sample size of 1µg contains Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized FGF-basic in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm FGF-basic although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm FGF-basic should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method

Amino acid Sequence: The sequence of the first five N-terminal amino acids was determined and was found to be Pro-Ala-Leu-Pro-Glu.

Biological Activity: The ED_{50}, calculated by the dose-dependant proliferation of BALB/3T3 cells is < 0.5 ng/ml.

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medium	50 µg	Cat.N°	12343625
large	250 µg	Cat.N°	12343627
x-large	1000 µg	Cat.N°	12343628

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Recombinant Mouse Flt3-Ligand (rm Flt3L / CD135)

Synonyms: Fms-related tyrosine kinase 3 ligand, Stem Cell Tyrosine Kinase 1(STK1).

Introduction: Flt3-Ligand is a growth factor that regulates proliferation of early hematopoietic cells. Flt3-Ligand binds to cells expressing the tyrosine kinase receptor Flt3. Flt3-Ligand, by itself does not stimulate proliferation of early hematopoietic cells, but synergizes with other CSFs and interleukins to induce growth and differentiation. Unlike SCF, Flt3-Ligand has no activity on mast cells. Multiple isoforms of Flt3-Ligand have been identified.

Description: Recombinant mouse Flt3-Ligand produced in *E.Coli* is a non-glycosylated, polypeptide chain containing 163 amino acids and having a molecular mass of 18.6 kDa. The rm Flt3-Ligand is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: The protein was lyophilisated from a 0.22 µm filtered solution in PBS.
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm Flt3-Ligand in sterile H_20 not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm Flt3-Ligand although stable at room temperature for 3 weeks, should be stored desiccated below -18° C . Upon reconstitution rm Flt3-Ligand should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Endotoxicity:: The endotoxin level is less than 1 EU / µg determined by LAL method

Amino acid Sequence: The sequence of the first five N-terminal amino acids was determined and was found to be Met-Thr-Pro-Asp-Cys.

Biological Activity:
Determined by the dose-dependent stimulation of the proliferation of receptor-transfected cells.

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large	50 µg	Cat.N°	12343305
x-large	250 µg	Cat.N°	12343307
xx-large	1000 µg	Cat.N°	12343308

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Recombinant Mouse Granulocyte Colony Stimulating Factor (rm G-CSF)

Synonyms: CSF3, MGI-1G, GM-CSF beta, Pluripoietin

Introduction: G-CSF is a growth factor produced by the endothelium, macrophages and a number of other immune cells. G-CSF stimulates the bone marrow to produce granulocytes and also to stimulate the survival, proliferation, differentiation and function of neutrophil granulocyte progenator cells and mature neutrophils.

Description: Recombinant mouse G-CSF produced in *E.Coli* is a single, non-glycosylated, polypeptide chain containing 179 amino acids and having a molecular mass of 19kDa. rm G-CSF is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered carrier free solution in 25 mM sodium phosphate pH 6.5 + 200 mM NaCl.
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm G-CSF in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm G-CSF although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm G-CSF should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 0.1 ng per µg (1EU/µg) determined by LAL method

Amino Acid Sequence: MVPLVTVSAL PPSLPLPRSF LLKSLEQVRK IQASGSVLLE QLCATYKLCH PEELVLLGHS LGIPKASLSG CSSQALQQTQ CLSQLHSGLC LYQGLLQALS GISPALAPTL DLLQLDVANF ATTIWQQMEN LGVAPTVQPT QSAMPAFTSA FQRRAGGVLA ISYLQGFLET ARLALHHLA

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Biological Activity: The ED_{50} range < 0.05 ng/ml determined by the dose- dependant proliferation of mouse NFS-60 indicator cells, corresponding to specific activity of $2x10^7$ IU/mg

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medium	10 µg	Cat.N°	12343133
large	50 µg	Cat.N°	12343135
x-large	250 µg	Cat.N°	12343137
xx-large	1000 µg	Cat.N°	12343138

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Recombinant Mouse Granulocyte Macrophage Colony Stimulating Factor (rm GM-CSF)

Synonyms: CSF-2, MGI-1GM, Pluripoietin-alpha, Molgramostin, Sargramostin

Introduction: GM-CSF is a cytokine that controls the production, differentiation and function of granulocytes and macrophages. The active form of the protein is found extracellularly as a homodimer. GM-CSF has been localized to a cluster of related genes at chromosome region 5q31 which is known to be associated with interstitial deletions in the 5q- syndrome and acute myelogenous leukemia. Other genes in the cluster include those encoding Interleukins 4, 5 and 13. GM-CSF stimulates the growth and differentation of hematopoietic precursor cells from various lineages, including granulocytes, macrophages, eosinophils and erythrocytes.

Description: Recombinant murine GM-CSF produced in *E.Coli* is a single, non-glycosylated, polypeptide chain containing 125 amino acids and having a molecular mass of 14285.35 Dalton. rm GM-CSF is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered carrier free solution in PBS.
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm GM-CSF in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm GM-CSF although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm GM-CSF should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by: SDS-PAGE.

Endotoxicity: The endotoxin level is less than 0.1 ng per µg (1EU/µg) determined by LAL method

Amino Acid Sequence: MAPTRSPITV TRPWKHVEAI KEALNLLDDM PVTLNEEVEV VSNEFSFKKL TCVQTRLKIF EQGLRGNFTK LKGALNMTAS YYQTYCPPTP ETDCETQVTT YADFIDSLKT FLTDIPFECK KPVQK

Biological Activity: The ED_{50} as determined by the dose-dependant stimulation of the proliferation of murine FDCP-1 cell line is < 0.2 ng/ml, corresponding to a specific activity of 5 x 10^6 IU/mg.

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medium	10 µg	Cat.N°	12343123
large	50 µg	Cat.N°	12343125
x-large	250 µg	Cat.N°	12343127
xx-large	1000 µg	Cat.N°	12343128

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Recombinant Mouse Growth factor alpha (rm GRO-alpha / CXCL1 / KC)

Synonyms: Keratinocyte-derived Chemokine, Secretary protein N51, SCYB1, GRO-1

Introduction: The three isoforms of GRO – GROalpha, GRObeta and GROgamma - are structurly related to Interleukin-8 and belong to the CXC chemokines that can signal through the CXCR1 or CXCR2 receptors. The GRO proteins chemoattract and activate neutrophils and basophils. GROa / KC is expressed by macrophages, neutrophils and epithelial cells and has neutrophil chemoattractant activity. Murine GROa /KC also binds to human neutrophils. An initial study in mice showed evidence that GROa decreased the severity of multiple sclerosis and may offer a neuro-protective function.

Description: Recombinant murine GROa/KC produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 77 amino acids and having a molecular mass of 7.8 kDa. Rm GRO-α is purified by proprietary chromatographic techniques.

Source: *E. coli.*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in 50 mM sodium acetate, 50 mM NaCl, pH 7.5
The sample size of 1µg contains Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm GROa/KC in sterile water not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm GROa/KC although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm GROa/KC should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Amino acid Sequence: RLATGAPIANELRCQ CLQTMAGIHL KNIQSLKVLP SGPHCTQTEV IATLKNGREA CLDPEAPLVQ KIVQKMLKGV PK

Biological Activity: testing in progress

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medium	20 µg	Cat.N°	12343704

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Recombinant Mouse Growth factor beta (rm GRO-beta / rm CXCL2 / rm MIP-2a)

Synonyms: GRO2, SCYB2, CINC-2a, MGSA beta, Macrophage Inflammatory Protein-2 alpha.

Introduction: Growth factor beta is a small cytokine belonging to the CXC chemokine family. GRO-beta is 90% identical in amino acid sequence as a related chemokine, GRO-alpha. This chemokine is secreted by monocytes and macrophages and is chemotactic for polymorphonuclear leukocytes and hematopoietic stem cells. The gene for GRO-beta is located on human chromosome 4 in a cluster of other CXC chemokines. GRO-beta mobilizes cells by interacting with a cell surface chemokine receptor called CXCR2.

Description: Recombinant murine GRO-beta produced in E.Coli is a single,non-glycosylated, polypeptide chain containing 73 amino acids and having a molecular mass of 7849 Dalton.
Rm GRO-beta is purified by proprietary chromatographic techniques.

Source: *E. coli.*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: lyophilized from a concentrated solution in 20mM PB, pH7.4 and 150mM NaCl.
The sample size of 1µg contains Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm GRO-beta in sterile H2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm GRO-beta although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm GRO-beta should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 97.0% as determined by RP-HPLC and by SDS-PAGE.

Amino acid Sequence: The sequence of the first five N-terminal amino acids was determined and was found to be Ala-Val-Val-Ala-Ser.

Biological Activity: The biological activity was determined by ability to chemoattract total human neutrophils using a concentration range of 1.0 – 10.0 ng/ml.

Protein content: Protein quantitation was carried out by two independent methods:
1.) UV spectroscopy at 280 nm using the absorbency value of 0,015 as the extinction coefficient for a 0.1% (1 mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).
2.) Analysis by RP-HPLC, using a calibrated solution of rm GRO- beta as a Reference Standard.

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medium	20 µg	Cat.N°	12343714

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Recombinant Mouse Interferon Gamma (rm IFN-gamma)

Synonyms: Immune Interferon, Type II Interferon, T cell Interferon, MAF, IFNG, IFG, IFI.

Introduction: IFN-gamma produced by lymphocytes activated by specific antigens or mitogens. IFN-gamma, in addition to having antiviral activity, has important immunoregulatory functions, it is a potent activator of macrophages and has antiproliferative effects on transformed cells and it can potentiate the antiviral and antitumor effects of the type I interferons.

Description: Recombinant murine IFN-gamma produced in *E.Coli* is a single, non-glycosylated, polypeptide chain containing 134 amino acids and having a molecular mass of 15.6 kDa. The rm IFN-gamma is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in 25mM sodium phosphate, pH 6.5
The sample size of 1µg contains Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IFN-gamma in sterile H_2O not less than 100 µg/ml which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IFN-gamma although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm IFN-gamma should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE

Amino Acid Sequence: MHGTVIESLESLNNYFNSSG IDVEEKSLFLDIWRNWQKDG DMKILQSQIISFYLRLFEVL KDNQAISNNISVIESHLITT FFSNSKAKKDAFMSIAKFEV NNPQVQRQAFNELIRVVHQL LPESSLRKRKRSRC

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Biological Activity: The specific activity as determined by the cytopathic affect inhibition assay with murine NIH 3T3 cells challenged with EMC virus was < 0.1 ng/ml, corresponding to a specific activity of 1.0 x 10^7 IU/mg.

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small	20 µg	Cat.N°	12343534
medium	100 µg	Cat.N°	12343536
large	500 µg	Cat.N°	12343537
x-large	1000 µg	Cat.N°	12343538

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Recombinant Mouse Insulin-Like Growth Factor I (rm IGF-I)

Synonyms: Somatomedin C, IGFIA

Introduction: The somatomedins, or insulin-like growth factors (IGFs), comprise a family of peptides that play important roles in mammalian growth and development. IGF-1 mediates many of the growth-promoting effects of growth hormone (GH; MIM 139250). Early studies showed that growth hormone did not directly stimulate the incorporation of sulfate into cartilage, but rather acted through a serum factor, termed 'sulfaction factor', which later became known as 'somatomedin' (Daughaday et al., 1972). Three main somatomedins have been characerized: somatomedin C (IGF1), somatomedin A (IGF2; MIM 147470) and somatomedin B (MIM 193190) (Rotwein, 1986; Rosenfeld, 2003).

Description: Recombinant murine IGF-1 produced in *E.Coli* is a single, non-glycosylated, polypeptide chain containing 70 amino acids and having a molecular mass of 7.600 kDa. rm IGF-I is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized with no additives.
The sample size of 1µg contains Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IGF-1 in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IGF-1, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rm IGF-1 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommendet to add a carrier protein (0,1 % HSA or BSA).
Please avoid freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Amino Acid Sequence: The sequence of the first five N-terminal amino acids was determined and was found to be Gly-Pro-Glu-Thr-Leu.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Biological Activity: The ED_{50}, calculated by the dose-dependant proliferation of murine BALB\C 3T3 cells (measured by 3H-thymidine uptake) is less than 1.0 ng/ml, corresponding to a specific activity of $1x10^6$ U/mg.

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small	10 µg	Cat.N°	12343313
medium	50 µg	Cat.N°	12343315
large	250 µg	Cat.N°	12343317

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Recombinant Mouse Interleukin-1alpha (rm IL-1a / rm IL1F1)

Synonyms: Hematopoietin-1, Lymphocyte-activating factor (LAF), Endogenous Pyrogen (EP), Leukocyte Endogenous Mediator (LEM), Mononuclear Cell Factor (MCF).

Introduction: Interleukin-1 alpha is a proinflammatory cytokine produced by a wide variety of cell types, including macrophages, osteoblasts, monocytes and hepatocytes. Circulating levels of are normally low and only rise after stimulation by agents such as those produced by inflammation, infection or microbial endotoxins. IL-1 alpha possesses a wide variety of biological activities and exerts its effects by binding to specific cell surface receptors.

Description: Recombinant murine Interleukin-1alpha produced in E.Coli is a non-glycosylated, polypeptide chain containing 156 amino acids and having a molecular mass of 18 kDa.
The IL-1a is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: lyophilized from a 0.22 µm filtered solution in PBS, pH 7.2.
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-1a in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-1a, although stable at room temperature for 3 weeks, should be stored desiccated below –18° C. Upon reconstitution rm IL-1a should be stored at 4° C between 2-7 days and for future use below –18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: 95.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method

Amino acid sequence: SAPYTYQSDL RYKLMKLVR QKFVMNDSLN QTIYQDVDKH YLSTTWLNDL QQEVKFDMYA YSSGGDDSKY PVTLKISDSQ LFVSAQGEDQ PVLLKELPET PKLITGSETD LIFFWKSINS KNYFTSAAYP ELFIATKEQS RVHLARGLPS MTDFQIS

Biological Activity: The ED_{50} as determined by its ability to promote proliferation of murine D10.G4.1 cells is < 0.01 ng/ml, corresponding to a specific activity of 1 x 10^8 IU/mg.

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small	2 µg	Cat.N°	12349012
medium	10 µg	Cat.N°	12349013
large	50 µg	Cat.N°	12349015
x-large	250 µg	Cat.N°	12349017
xx-large	1000 µg	Cat.N°	12349018

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Recombinant Mouse Interleukin-1beta (rm IL-1b / rm IL1F2)

Synonyms: Catabolin, Lymphocyte-activating factor (LAF), Endogenous Pyrogen (EP), Leukocyte Endogenous Mediator (LEM), Mononuclear Cell Factor (MCF).

Introduction: IL-1B proteins are involved in the inflammatory response, being identified as endogenous pyrogens and are reported to stimulate the release of prostaglandin and collagenase from synovial cells. Interleukin-1b stimulates thymocyte proliferation by inducing IL-2 release, b-cell maturation and proliferation, and fibroblast growth factor activity.

Description: Rm Interleukin-1b produced in E.Coli is a non-glycosylated, polypeptide chain containing 153 amino acids and having a molecular mass of 17.5 kDa.
The IL-1b is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: lyophilized from a 0.22 µm filtered solution in PBS, pH 7.2.
The aliquots of 1µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-1b in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-1b, although stable at room temperature for 3 weeks, should be stored desiccated below –18° C. Upon reconstitution rm IL-1b should be stored at 4° C between 2-7 days and for future use below –18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: 95.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method

Amino acid sequence: MVPIRQLHYR LRDEQQKSLV LSDPYELKAL HLNGQNINQQ VIFSMSFVQG EPSNDKIPVA LGLKGKNLYL SCVMKDGTPT LQLESVDPKQ YPKKKMEKRF VFNKIEVKSK VEFESAEFPN WYISTSQAEH KPVFLGNNSG QDIIDFTMES VSS

Biological Activity: The ED_{50} as determined by the dose-dependant stimulation of murine D10 cells is < 2 pg/ml, corresponding to a specific activity of 5 x10^8 IU/mg.

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small	2 µg	Cat.N°	12340012
medium	10 µg	Cat.N°	12340013
large	50 µg	Cat.N°	12340015
x-large	250 µg	Cat.N°	12340017
xx-large	1000 µg	Cat.N°	12340018

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Recombinant Mouse Interleukin-2 (rm IL-2)

Synonyms: T-cell growth factor (TCGF), Aldesleukin, Lymphokine

Introduction: IL-2 is a secreted cytokine that is important for the proliferation of T and B lymphocytes. The receptor of this cytokine is a heterotrimeric protein complex whose gamma chain is also shared by Interleukin 4 (IL-4) and Interleukin 7 (IL-7). The expression of this gene in mature thymocytes is monoallellic, which represents an unusual regulatory mode for controlling the precise expression of a single gene. The targeted disruption of a similar gene in mice leads to ulcerative colitis- like disease which suggests an essential role of this gene in the immune response to antigenic stimuli.

Description: Recombinant murine IL-2 produced in *E.coli* is a single, non-glycosylated polypeptide chain containing 149 amino acids and having a molecular mass of 17.2 kDa. The rm IL-2 is purified by proprietary chromatographic techniques.

Source: *Escherichia coli.*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilised from a 0.22 µm filtered solution in PBS pH 7.3.
The aliquots of 1µg contain Trehalose 5% (w/vol) for better recovery

Solubility: After spinning down it is recommended to reconstitute the lyophilized rm IL-2 in sterile H_2O not less than 100 µg/ml which can then be further diluted to other aqueous solutions..

Stability: Lyophilized rm IL-2 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm IL-2 should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Amino Acid Sequence: PTSSSTSSST AEAQQQQQQQ QQQQQHLEQL LMDLQELLSR MENYRNLKLP RMLTFKFYLP KQATELKDLQ CLEDELGPLR HVLDLTQSKS FQLEDAENFI SNIRVTVVKL KGSDNTFECQ FDDESATVVD FLRRWIAFCQ SIISTSPQ

Biological Activity: Determined by the dose-dependant stimulation of murine CTLL-2 cells the biological activity is 5 x 10^6 IU/mg.

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medium	20 µg	Cat.N°	12340024
large	100 µg	Cat.N°	12340026
x-large	500 µg	Cat.N°	12340027
xx-large	1000 µg	Cat.N°	12340028

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Recombinant Mouse Interleukin-3 (rm IL-3)

Synonyms: MCGF (Mast cell growth factor), Multi-CSF, HCGF, P-cell stimulation factor

Introduction: Interleukin-3 is a pleiotropic cytokine produced primarily by activated T cells. IL-3 is thought to function via specific cell surface receptors to stimulate the proliferation, differentiation and survival of haematopoietic cell lines. IL-3 has also been shown to affect the functional activity of a variety of other cell types including mast cells, eosinophils, megakaryocytes and basophils.

Description: Recombinant murine IL-3 produced in *E.Coli* is a single, non-glycosylated polypeptide chain containing 135 amino acids and having a molecular mass of 15.1 kDa. The rm IL-3 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli.*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered carrier free solution in PBS, pH 7.5
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-3 in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-3 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm IL-3 should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Amino acid sequence: MDTHRLTRTL NCSSIVKEII GKLPEPELKT DDEGPSLRNK SFRRVNLSKF VESQGEVDPE DRYVIKSNLQ KLNCCLPTSA NDSALPGVFI RDLDDFRKKL RFYMVHLNDL ETVLTSRPPQ PASGSVSPNR GTVEC

Biological Activity: The ED_{50} as determined by the dose-dependant stimulation of the proliferation of murine Ba/F3 cells. It was found to be ≤ 0.05 ng/ml, corresponding to a specific activity of ≥ 2×10^7 units/mg.

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medium	10 µg	Cat.N°	12340033
large	50 µg	Cat.N°	12340035
x-large	250 µg	Cat.N°	12340037
xx-large	1000 µg	Cat.N°	12340038

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Recombinant Mouse Interleukin-4 (rm IL-4)

Synonyms: BCGF, BCDF, B cell stimulating factor, BSF-1, Lymphocyte stimulatory factor **,** Binetrakin, Pitrakinra**.**

Introduction: Interleukin-4 is a pleiotropic cytokine produced primarily by activated T lymphocytes, basophils and mast cells. Multiple immune response-modulating functions are performed by IL-4 on a variety of cell types and it has an important role in the regulator of isotype switching, induction of IgE production in B lymphocytes and differentiation of precursor T helper cells. IL-4 binds to both membrane-bound and secreted soluble IL-4 receptors.

Description: Recombinant murine IL-4 produced in *E.Coli* is a single, non-glycosylated polypeptide chain containing 121 amino acids and having a molecular mass of 13.5 kDa. The rm IL-4 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli.*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in 25 mM sodiump hosphate, 200 mM NaCl pH 6.5. The aliquots of 1µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-4 in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-4 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm IL-4 should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please avoid freeze-thaw cycles.

Purity: 95.0% as determined by SDS-PAGE

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method

Amino acid sequence: MHIHGCDKNH LREIIGILNE VTGEGTPCTE MDVPNVLTAT KNTTESELVC RASKVLRIFY LKHGKTPCLK KNSSVLMELQ RLFRAFRCLD SSISCTMNES KSTSLKDFLE SLKSIMQMDY S

Biological Activity: The ED_{50} as determined by STAT6 specific reporter gene read-out on murine Ba/F3 cells is 2.0 ng/ml.

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medium	10 µg	Cat.N°	12340043
large	50 µg	Cat.N°	12340045
x- large	250 µg	Cat.N°	12340047
xx- large	1000 µg	Cat.N°	12340048

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Recombinant Mouse Interleukin-5 (rm IL-5)

Synonyms: T-cell replacing factor (TRF), Eosinophil differentiation factor (EDF), B cell differentiation factor II (BCDFII).

Introduction: The protein encoded by this gene is a cytokine that acts as a growth and differentiation factor for both B cells and eosinophils. This cytokine is a main regulator of eosinopoiesis, eosinophil maturation and activation. The elevated production of this cytokine is reported to be related to asthma or hypereosinophilic syndromes. The receptor of this cytokine is a heterodimer, whose beta subunit is shared with the receptors for IL-3 and GM-CSF. This gene, together with those for IL-4, IL-13 and GM-CSF, form a cytokine gene cluster on chromosome 5. This cytokine, IL-4, and IL13 are found to be regulated coordinately by long-range regulatory elements spread over 120 kilobases on chromosome 5q31.

Description: Recombinant murine IL-5 produced in *E.Coli* is a dimeric, non-glycosylated polypeptide chain containing 2 x 113 amino acids forming a disulfide linked homodimer and having a molecular mass of 26.2 kDa. The rm IL-5 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a concentrated solution containing 20mM Sodium Phosphate and 50mM NaCl, pH-7.5.
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-5 in steril H_2O not less than 100µg/ml which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-5 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm IL-5 should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 97.0% as determined by RP-HPLC and by SDS-PAGE.

Amino Acid Sequence: MEIPMSTVVK ETLTQLSAHR ALLTSNETMR LPVPTHKNHQ LCIGEIFQGL DILKNQTVRG GTVEMLFQNL SLIKKYIDRQ KEKCGEERRR TRQFLDYLQE FLGVMSTEWA MEG.

Biological Activity: The ED50 as determined by the dose-dependant stimulation of the proliferation of TF-1 cells was found to be 1.7 ng/ml.

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medium	10 µg	Cat.N°	12340053

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Recombinant Mouse Interleukin-6 (rm IL-6)

Synonyms: IFN-b2, B cell differentiation factor (BCDF), BSF-2, HPGF, HSF, MGI-2, Interleukin HP-1, B-cell hybridoma growth factor.

Introduction: IL-6 is a potent pro-inflammatory cytokine primarily produced by activated T-cells and an assortment of other cells including endothelial cells and macrophages. IL-6 affects B- and T-lymphocytes and has been shown to have a role in host defense, acute phase reactions, immune responses and hematopoiesis.

Description: Recombinant murine IL-6 produced in *E.Coli* is a single, non-glycosylated, polypeptide chain containing 187 amino acids and having a molecular mass of 21.7 kDa. The rm IL-6 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered carrier free solution in PBS pH 7.5 containing 0.25 M NaCl
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-6 in steril H_2O not less than 100µg/ml which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-6 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm IL-6 should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA) .
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Amino Acid Sequence: MFPTSQVRRG DFTEDTTPNR PVYTTSQVGG LITHVLWEIV EMRKELCNGN SDCMNNDDAL AENNLKLPEI QRNDGCYQTG YNQEICLLKI SSGLLEYHSY LEYMKNNLKD NKKDKARVLQ RDTETLIHIF NQEVKDLHKI VLPTPISNAL LTDKLESQKE WLRTKTIQFI LKSLEEFLKV TLRSTRQT

Endotoxicity: The endotoxin level is less than 0.1 ng per µg (1EU/µg) determined by LAL method

Biological Activity: The ED_{50} as determined by its growth promoting effect on 7TD1 cells is < 0.02 ng/ml, corresponding to a specific activity of 5.0 x 10^7 IU/mg.

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medium	10 µg	Cat.N°	12340063
large	50 µg	Cat.N°	12340065
x-large	250 µg	Cat.N°	12340067
xx-large	1000 µg	Cat.N°	12340068

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Recombinant Mouse Interleukin-7 (rm IL-7)

Synonyms: Lymphopoietin 1 (LP-1), pre-B cell factor.

Introduction: Interleukin-7 is a potent lymphoid cell growth factor produced primarily by stromal cells. IL-7 has been shown to support the proliferation and differentiation of pre B- and early T cells as well as displaying a biological effect on cells of NK and myeloid lineages.

Description: Recombinant murine IL-7 produced in *E.Coli* is a single, non-glycosylated, polypeptide chain containing 130 amino acids and having a molecular mass of 14.9 kDa. The rm IL-7 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: lyophilized from a 0.22 µm filtered solution in 25 mM Sodiumphosphate, 200 mM NaCl, pH 7.5
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-7 in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rmIL-7 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm IL-7 should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE / silver stain.

Endotoxicity: The endotoxin level is less than 1 EU/µg determined by LAL method

Amino Acid Sequence: MECHIKDKEG KAYESVLMIS IDELDKMTGT DSNCPNNEPN FFRKHVCDDT KEAAFLNRAA RKLKQFLKMN ISEEFNVHLL TVSQGTQTLV NCTSKEEKNV KEQKKNDACF LKRLLREIKT CWNKILKGSI

Biological Activity: The ED_{50} as determined by IL-7 induced STAT activation in murine AG14 cells is < 0.2 ng/ml, corresponding to a specific activity of 2 x 10^6 IU/mg.

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medium	10 µg	Cat.N°	12340073
large	50 µg	Cat.N°	12340075
x-large	250 µg	Cat.N°	12340077
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Recombinant Murine Interleukin-9 (rm IL-9)

Synonyms: P40, HP40, T-cell growth factor p40

Introduction: rh IL-9 is thought to be a regulator of hematopoiesis. It has been shown to enhance the growth of human mast cells and megakaryoblastic leukemic cells as well as murine Helper T-cell clones. IL-9 is a glycoprotein with a molecular weight of 32-39 that is derived from T-cells and maps to human chromosome 5.

Description: Recombinant murine IL-9 produced in *E.Coli* is a single, non-glycosylated, polypeptide chain containing 127 amino acids and having a molecular mass of 14.3kDa.
The IL-9 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: The protein was lyophilized from a concentrated from a concentrated (1mg/ml) solution 10mM Na_2PO_4, pH 7.5. The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-9 in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rmIL-9 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm IL-9 should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 96.0% as determined by SDS-PAGE.

Amino Acid Sequence: MQRCSTTWGI RDTNYLIENL KDDPPSKCSC SGNVTSCLCL SVPTDDCTTP CYREGLLQLT NATQKSRLLP VFHRVKRIVE VLKNITCPSF SCEKPCNQTM AGNTMSFLKS LLGTFQKTEM QRQKSRP

Biological Activity: The ED_{50} as determined by the dose-dependant stimulation of human MO7e cells is <0.5 ng/ml, corresponding to a specific activity of 2 x 10^6 IU/mg.

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small	2 µg	Cat.N°	12340092
medium	10 µg	Cat.N°	12340093
large	50 µg	Cat.N°	12340095

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Recombinant Mouse Interleukin-10 (rm IL-10)

Synonyms: Cytokine synthesis inhibitory factor (CSIF), B-TCGF, TGIF, IL10A

Introduction: IL10 is a cytokine produced primarily by monocytes and to a lesser extent by lymphocytes. This cytokine has pleiotropic effects in immunoregulation and inflammation. It down- regulates the expression of Th1 cytokines, MHC class II Ags and costimulatory molecules on macrophages. It also enhances B cell survival, proliferation and antibody production. This cytokine can block NF-kappa B activity and is involved in the regulation of the JAK-STAT signaling pathway.Knockout studies in mice suggested the function of this cytokine as an essential immunoregulator in the intestinal tract.

Description: Recombinant murine IL-10 produced in *E.Coli* is a single, glycosylated polypeptide chain containing 161 amino acids and having a molecular mass of 18.8 kDa. The rm IL-10 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in TRIS, pH 8.0 + 250 mM NaCl.
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-10 in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-10 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm IL-10 should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please avoid freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Amino Acid Sequence: MSRGQYSRED NNCTHFPVGQ SHMLLELRTA FSQVKTFFQT KDQLDNILLT DSLMQDFKGY LGCQALSEMI QFYLVEVMPQ AEKHGPEIKE HLNSLGQKLK TLRMRLRRCH RFLPCENKSK AVEQVKSDFN KLEDQGVYKA MNEFDIFINC IEAYMMIKMK S

Biological Activity: The ED_{50} as determined by dose dependant proliferation of a murine MC/9 cell line was found to be < 2 ng/ml, corresponding to a specific activity of 5 x 10^5 IU/mg.

Endotoxicity: The endotoxin level is less than 0.1 ng per µg (1EU/µg) determined by LAL method

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large	50 µg	Cat.N°	12340105
x-large	250 µg	Cat.N°	12340107
xx-large	1000 µg	Cat.N°	12340108

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Recombinant Mouse Interleukin-11 (rm IL-11)

Synonyms: Adipogenesis Inhibitory Factor (AGIF), Oprelvekin.

Introduction: IL-11 is a member of the gp130 family of cytokines. These cytokines drive the assembly of multi-subunit receptor complexes, all containing at least one molecule of the transmembrane signaling receptor IL6ST (gp130). IL-11 is shown to stimulate the T-cell-dependent development of immunoglobulin-producing B cells. It is also found to support the proliferation of hematopoietic stem cells and megakaryocyte progenitor cells.

Description: Recombinant mouse IL-11 produced in *E.Coli* is a single, non-glycosylated polypeptide chain containing 179 amino acids and having a molecular mass of 19.2kDa. rm IL-11 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in sodium phosphate pH7.5
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-11 in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-11 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C . Upon reconstitution rm IL-11 should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Amino acid sequence: MPGPPAGSPR VSSDPRADLD SAVLLTRSLL ADTRQLAAQM RDKFPADGDH SLDSLPTLAM SAGTLGSLQL PGVLTRLRVD LMSYLRHVQW LRRAGGPSLK TLEPELGALQ ARLERLLRRL QLLMSRLALP QAAPDQPVIP LGPPASAWGS IRAAHAILGG LHLTLDWAVR GLLLLKTRL

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Biological Activity: The ED_{50} as determined by the dose-dependant stimulation of the proliferation of mouse 7TD1 was found to be less than 1.5 ng/ml corresponding to a specific activity of ≥ 5 x 10^5 IU/mg.

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medium	10 µg	Cat.N°	12340113
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Recombinant Murine Interleukin-13 (rm IL-13)

Synonyms: NC300, ALRH, BHR1, P600.

Introduction: IL-13 is an immunoregulatory cytokine produced primarily by activated Th2 cells. IL-13 is involved in several stages of B-cell maturation and differentiation. It regulates CD23 and MHC class II expression up and promotes IgE isotype switching of B cells. IL-13 regulates macrophage activity down by inhibiting thereby the production of pro-inflammatory cytokines and chemokines. IL-13 is found to be critical to the pathogenesis of allergen-induced asthma but operates through mechanisms independent of IgE and eosinophils. This gene, IL-3, IL-4, IL-5 and GM-CSF form a cytokine gene cluster on chromosome 5q, with this gene particularly close to IL-4.

Description: Recombinant murine IL-13 produced in E.Coli is a single, non-glycosylated polypeptide chain containing 110 amino acids and having a molecular mass of 12 kDa. The rm IL-13 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22µm filtered solution in PBS, pH 7.0.
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-13 in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-13 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm IL-13 should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95% as determined by SDS-PAGE

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Amino Acid Sequence: MPVPRSVSLP LTLKELIEEL SNITQDQTPL CNGSMVWSVD LAAGGFCVAL DSLTNISNCN AIYRTQRILH GLCNRKAPTT VSSLPDTKIE VAHFITKLLS YTKQLFRHGP F

Biological Activity: The biological activity was determined by dose-dependent stimulation of TF-1 proliferation. The ED_{50} was found to be < 4 ng/ml correspomnding to a specific activity of 2.4 x 10^5 units/mg.

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medium	10 µg	Cat.N°	12340133
large	50 µg	Cat.N°	12340135

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Recombinant Mouse Interleukin-15 (rm IL-15)

Synonyms: MGC9721

Introduction: The protein encoded by this gene is a cytokine that regulates T and natural killer cell activation and proliferation. This cytokine and interleukine 2 share many biological activities. They are found to bind common hematopoietin receptor subunits, and may compete for the same receptor, and thus negatively regulate each other's activity. The number of CD8+ memory cells is shown to be controlled by a balance between this cytokine and IL2. This cytokine induces the activation of JAK kinases, as well as the phosphorylation and activation of transcription activators STAT3, STAT5, and STAT6. Studies of the mouse counterpart suggested that this cytokine may increase the expression of apoptosis inhibitor BCL2L1/BCL-x(L), possibly through the transcription activation activity of STAT6, and thus prevent apoptosis. Two alternatively spliced transcript variants of this gene encoding the same protein have been reported.

Description: Recombinant mouse IL-15 produced in *E.Coli* is a single, non-glycosylated polypeptide chain containing 115 amino acids and having a molecular mass of 13.3 kDa.
rm IL-15 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: The protein was lyophilized from a concentrated (1 mg/ml) solution with 10 mM Na_2PO_4, pH 8.0.

Solubility: It is recommended to reconstitute the lyophilized rm IL-15 in sterile 18MΩ-cm H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-15 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C . Upon reconstitution it should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 0.1 ng per µg (1EU/µg) determined by LAL method

Amino acid sequence: MNWIDVRYDL EKIESLIQSI HIDTTLYTDS DFHPSCKVTA MNCFLLELQV ILHEYSNMTL NETVRNVLYL ANSTLSSNKN VAESGCKECE ELEEKTFTEF LQSFIRIVQM FINTS

Biological Activity: The ED_{50} as determined by the dose-dependant stimulation of the proliferation of CTLL-2 cells was found to be 4 - 6 ng/ml.

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large	50 µg	Cat.N°	12340155

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Recombinant Mouse Interleukin-16 (rm IL-16)

Synonyms: LCF, Lymphocyte Chemoattractant Factor, prIL-16

Introduction: IL-16 is a pleiotropic cytokine that functions as a chemoattractant, a modulator of T-cell activation and an inhibitor of HIV replication. The signaling process of IL-16 is mediated by CD4. The product of this gene undergoes proteolytic processing which is found to yield two functional proteins. IL-16 functions exclusively attributed to the secreted C-terminal peptide, while the N-terminal product may play a role in cell cycle control. Caspase 3 is reported to be involved in the proteolytic processing of this protein. Two transcript variants encoding different isoforms have been found for this gene. IL-16 stimulates a migratory response in CD4+ lymphocytes, monocytes and eosinophils, also induces T-lymphocyte expression of Interleukin 2 receptor and is a ligand for CD4.

Description: Recombinant mouse IL-16 produced in *E.Coli* is a single, non-glycosylated polypeptide chain containing 127 amino acids and having a molecular mass of 13.2 kDa. rm IL-16 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: lyophilized from a 0.22 µm filtered solution in 25 mM sodium phosphate, pH 7.0 + 200 mM NaCl. The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-16 in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-16 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C . Upon reconstitution rm IL-16 should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 90.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 0.1 ng per µg (1EU/µg) determined by LAL method

Amino acid sequence: MHDLNSSTDS AASASAASDI SVESKEATVC TVTLEKTSAG LGFSLEGGKG SLHGDKPLTI NRIFKGDRTG EMVQPGDEIL QLAGTAVQGL TRFEAWNVIK ALPDGPVTIV IRRTSLQCKQ TTASADS

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medium	10 µg	Cat.N°	12340163
large	50 µg	Cat.N°	12340165
x-large	250 µg	Cat.N°	12340167
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Recombinant Mouse Interleukin-17A (rm IL-17A)

Synonyms: Cytotoxic T-lymphocyte-associated antigen 8 (CTLA-8).

Introduction: IL-17 is a proinflammatory cytokine produced by activated T cells. IL-17 regulates the activities of NF-kappaB and mitogen-activated protein kinases. Interleukin-17 can stimulate the expression of IL-6 and Cyclooxygenase-2 (/COX-2) as well as enhance the production of nitric oxide (NO). High levels of IL-17 are associated with several chronic inflammatory diseases including rheumatoid arthritis, psoriasis and multiple sclerosis.

Description: Recombinant murine IL-17A produced in *E.Coli* is a homodimeric, non-glycosylated polypeptide chain containing a total of 266 amino acids and having a molecular mass of 29956 Dalton. The rm IL-17A is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: The protein was lyophilized from a concentrated (1 mg/ml) solution in PBS, ph 7.4.
The sample size of 1µg contains Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-17A in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-17A although stable at room temperature for 3 weeks, should be stored desiccated below -18° C . Upon reconstitution rm IL-17A should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by:
(a) Analysis by RP-HPLC.
(b) Analysis by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 1 EU/mg (0.1 ng/ml) determined by LAL method

Amino acid sequence: The sequence of the first five N-terminal amino acids was determined and was found to be Ala-Ala-Ile-Ile-Pro.

Biological Activity: rm IL-17A is fully biologically active when compared to standard. The ED_{50} as determined by the dose-dependant secretion of IL-6 by NIH 3T3 cells was found to be 1.0-10.0 ng/ml.

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medium	25 µg	Cat.N°	12340174
large	100 µg	Cat.N°	12340176
x-large	500 µg	Cat.N°	12340177
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Recombinant Mouse Interleukin-17C (rm IL-17C)

Introduction: Mouse IL-17C cDNA encodes a 194 amino acid (aa) residues protein with a putative 14 aa signal peptide. Although there are no potential Nlinked glycosylation sites, it is reportedly glycosylated. IL-17C shares from 15% to 30% aa sequence identity with other IL-17 family members. Mouse and human IL-17C share 83% aa sequence identity. IL-17C has a very restricted expression pattern and was detected as a rare expressed sequence tag (EST) in an adult prostate and fetal kidney libraries. IL-17C has been shown to stimulate the release of TNFα and IL1β from the monocytic cell line THP1, a property it shares with IL-17B. Human IL-17C is active on mouse cells. The receptor of IL-17C has not yet been identified.

Description: Recombinant Murine IL-17C produced in *E.Coli* is a 20.2 kDa protein containing 194 amino acid residues.

Source: *Escherichia Coli*.

Physical Appearance: Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in 25 mM TRIS, pH 7.0 + 200 mM NaCl.
The sample size of 1µg contais Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-17C in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-17C although stable at room temperature for 3 weeks, should be stored desiccated below -18° C . Upon reconstitution rm IL-17C should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: 95.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 1 EU/mg (0.1 ng/ml) determined by LAL method

small	5 µg	Cat.N°	12346170
medium	25 µg	Cat.N°	12346174
large	100 µg	Cat.N°	12346176
x-large	500 µg	Cat.N°	12346177

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Recombinant Mouse Interleukin-17F (rm IL-17F)

Introduction: Murine IL-17F, a member of the IL-17 family of structurally related cytokines, has been shown to stimulate proliferation and activation of T-cells and PBMCs. IL-17F also regulates cartilage matrix turnover and inhibits angiogenesis.

Description: Recombinant murine IL-17F produced in *E.Coli* is a disulfide-linked homodimer of 30 kDa, consisting of two 134 amino acid residue chains.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in 25 mM sodium phosphate, pH 6.8 + 200 mM NaCl. The sample size of 1µg contains Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-17F in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-17F although stable at room temperature for 3 weeks, should be stored desiccated below -18° C . Upon reconstitution rm IL-17F should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: 95.0% as determined by SDS-PAGE.

Amino Acid Sequence: MRKNPKAGVP ALQKAGNCPP LEDNTVRVDI RIFNQNQGIS VPREFQNRSS SPWDYNITRD PHRFPSEIAE AQCRHSGCIN AQGQEDSTMN SVAIQQEILV LRREPQGCSN SFRLEKMLLK VGCTCVKPIV HQAA

Endotoxicity: The endotoxin level is less than 1 EU/mg (0.1 ng/ml) determined by LAL method

Biological Activity: Determined by dose-dependent stimulation of IL-6 secretion of human fibroblasts

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medium	25 µg	Cat.N°	12349174
large	100 µg	Cat.N°	12349176
x-large	500 µg	Cat.N°	12349177
xx-large	1000 µg	Cat.N°	12349178

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Recombinant Mouse Interleukin-19 (rm IL-19)

Synonyms: Melanoma differentiation association like protein, MDA1, NG.1, ZMDA1, IL-10C.

Introduction: IL19 is a cytokine that belongs to the IL10 cytokine subfamily. IL-19 is found to be preferentially expressed in monocytes. It can bind the IL20 receptor complex and lead to the activation of the signal transducer and activator of transcription 3 (STAT3). A similar cytokine in mouse is reported to up-regulate the expression of IL6 and TNF-alpha and induce apoptosis, which suggests a role of this cytokine in inflammatory responses. Alternatively spliced transcript variants encoding the distinct isoforms have been described**.**

Description: rm Interleukin-19 produced in E.Coli is a single, non-glycosylated polypeptide chain containing 152 amino acids and having a molecular mass of 17722 Dalton.
The IL-19 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: lyophilized from a 0.22 µm filtered solution in 25 mM Sodiumphosphate, 200 mM NaCl, pH 6.5
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-19 in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-19, although stable at room temperature for 3 weeks, should be stored desiccated below –18° C. Upon reconstitution rm IL-19 should be stored at 4° C between 2-7 days and for future use below –18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method

Amino acid sequence: MLRRCLISVD MRLIEKSFHE IKRAMQTKDT FKNVTILSLE NLRSIKPGDV CCMTNNLLTF YRDRVFQDHQ ERSLEVLRRI SSIANSFLCV QKSLERCQVH RQCNCSQEAT NATRIIHDNY NQLEVSSAAL KSLGELNILL AWIDRNHLET PAA

Biological Activity: The biological activity was tested by mIL-19 induced reporter gene expression in hIL-20R transfected Ba/F3 cells.

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medium	10 µg	Cat.N°	12340193
large	50 µg	Cat.N°	12340195
x-large	250 µg	Cat.N°	12340197
xx-large	1000 µg	Cat.N°	12340198

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Recombinant Mouse Interleukin-20 (rm IL-20)

Synonyms: IL10D, ZCYTO10, Four alpha helix cytokine Zcyto10.

Introduction: IL-20 is a cytokine structurally related to Interleukin 10. IL-20 has been shown to transduce its signal through signal transducer and activator of transcription 3 (STAT3) in keratinocytes. A specific receptor for IL-20 is found to be expressed in skin and upregulated dramatically in psoriatic skin, suggesting a role for this protein in epidermal function and psoriasis**.**

Description: Recombinant murine IL-20 produced in *E.Coli* is a single, non-glycosylated, polypeptide chain containing 152 amino acids and having a molecular mass of 17.6 kDa. The rm IL-20 is purified by proprietary chromatographic techniques

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder .

Formulation: lyophilized from a 0.22 µm filtered solution in 25 mM Sodiumphosphate, 200 mM NaCl, pH 6.5
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-20 in sterile water not less than 100 µg/ml which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-20 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rm IL-20 should be stored for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method

Amino acid sequence: MLKTLHLGSC VITANLQAIQ KEFSEIRDSV QAEDTNIDIR ILRTTESLKD IKSLDRCCFL RHLVRFYLDR VFKVYQTPDH HTLRKISSLA NSFLIIKKDL SVCHSHMACH CGEEAMEKYN QILSHFIELE LQAAVVKALG ELGILLRWME EML

Biological Activity: The biological activity was tested by mIL-20 induced reporter gene expression in hIL-20R transfected Ba/F3 cells.

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large	50 µg	Cat.N°	12340205
x-large	250 µg	Cat.N°	12340207
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Recombinant Mouse Interleukin-21 (rm IL-21)

Introduction: IL-21 is produced by CD4+ T cells in response to antigenic stimulation. Its action enhances antigen-specific responses of immune cells. The biological effects of IL-21 include induction of differentiation of T-cells-stimulated B-cells into plasma cells and memory B-cells, stimulation (in conjuction) with IL-4 of IgG production and induction of apoptotic effects in native B-cells and stimulated B-cells in the absence of T-cell signaling. Additionally IL-21 promotes the anti-tumor activity of CD8+ T-cells and NK cells. IL-21 exerts its effect through binding to a specific type I cytokine receptor, IL-21R, which also contains the gamma chain and is found in other cytokine receptors including IL-2, IL-4, IL-7, IL-9 and IL-15. The IL-21/IL-21R interaction triggers a cascade of events which includes activation of the tyrosine kinases JAK1 and JAK3, followed by activation of the transcription factors STAT1 and STAT3.

Description: Recombinant murine IL-21 produced in *E.Coli* is a single, non-glycosilated polypeptide chain containing 130 amino acids and having a total molecular mass of 15 kDa. The rm IL-21 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in 25 mM sodium phosphate pH 7.3 + 200mM NaCl
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-21 in steril H_2O not less than 100µg/ml which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-21 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm IL-21 should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 0.1 ng per µg (1EU/µg) determined by LAL method

Amino Acid Sequence: MHKSSPQGPD RLLIRLRHLI DIVEQLKIYE NDLDPELLSA PQDVKGHCEH AAFACFQKAK LKPSNPGNNK TFIIDLVAQL RRRLPARRGG KKQKHIAKCP SCDSYEKRTP KEFLERLKWL LQKMIHQHLS

Biological Activity: Tested by dose dependent stimulation of IL-21 induced reporter gene activation in IL-21 receptor transfected cells the specific activity of rm IL-21 is > $0.5x10^5$ IU/mg

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medium	10 µg	Cat.N°	12340213
large	50 µg	Cat.N°	12340215
x-large	250 µg	Cat.N°	12340217
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Recombinant Mouse Interleukin-22 (rm IL-22)

Synonyms: IL-TIF, TIFa, IL-10-related T-cell-derived-inducible factor,

Introduction: Interleukin-22 was initially identified as a gene induced by IL-9 in mouse T cells and mast cells. Mouse IL-22 cDNA encodes a 179 amino acid residue protein with a putative 33 amino acids signal peptide that is cleaved to generate a 147 aa mature protein that shares approximately 79% and 22% aa sequence identity with human IL-22 and IL-10 respectively. IL-22 has been shown to activate STAT-1 and STAT-3 in several hepatoma cell lines and upregulate the production of acute phase proteins. IL-22 is produced by normal mouse T cells upon Con A activation. Mouse IL-22 expression is also induced in various organs upon lipopolysaccharide injection, suggesting that IL-22 may be involved in inflammatory responses. The functional IL-22 receptor complex consists of two receptor subunits, IL-22R (previously an orphan receptor named CRF2-9) and IL-10Rβ (previously known as CRF2-4) belonging to the class II cytokine receptor family.

Description: Recombinant mouse Interleukin-22 produced in E.Coli is a single, non-glycosylated homodimeric polypeptide chain containing 147 amino acids and having a molecular mass of 16.7 kDa. The mouse IL-22 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in 25 mM Sodiumphosphate, 200 mM NaCl, pH 7.0
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-22 in sterile water not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-22 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rm IL-22 should be stored for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Amino acid sequence:
MLPVNTRCKL EVSNFQQPYI VNRTFMLAKE ASLADNNTDV RLIGEKLFRG VSAKDQCYLM KQVLNFTLED VLLPQSDRFQ PYMQEVVPFL TKLSNQLSSC HISGDDQNIQ KNVRRLKETV KKLGESGEIK AIGELDLLFM SLRNACV

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Biological Activity: Determined by analysis of IL-22 receptor driven STAT activation in human cell line HT-29 the specific activity is found to be > 2 x 10^6 IU/mg.

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medium	10 µg	Cat.N°	12340223
large	50 µg	Cat.N°	12340225
x-large	250 µg	Cat.N°	12340227
xx-large	1000 µg	Cat.N°	12340228

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Recombinant Mouse Interleukin-25 / 17E (rm IL-25)

Synonyms: none

Introduction: Mouse IL-25/ IL-17E cDNA encodes a 169 amino acid residues (aa) precursor protein with a putative 16 aa signal peptide. Mature mouse IL-25/ IL-17E shares 76% and 91% amino sequence (aa) identity with mature human and rat IL-25/ IL-17E, respectively. Mouse IL-25/IL-17E also shares from 24% to 32% sequence identity with the other mouse IL-17 family members. IL-25/ IL-17E expression was detected at very low levels by PCR in various peripheral tissues including brain, kidney, lung, prostate, testis, adrenal gland spinal cord and trachea. IL-25/ IL-17E binds and activates IL-17B Receptor (IL17-R), which is expressed in kidney and liver, and at lower levels in brain, testis and other endocrine tissues. The expression of IL-17BR is up regulated under inflammatory conditions. Ligation of IL-25/ IL-17E to IL-17 RB induces activation of nuclear factor kappaB and stimulates the production of the proinflamatory cytokine IL-8. IL-17 has also been found to promote the expression of the prototypical Th2 genes.

Description: Recombinant Murine IL-25 produced in *E.Coli* is a 17.6 kDa protein containing 169 amino acid residues.

Source: *Escherichia Coli*.

Physical Appearance: Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in 25 mM sodium phosphate, pH 6.5 + 200 mM NaCl. The sample size of 1µg contains Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-25 in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-25 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C . Upon reconstitution rm IL-25 should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: 95.0% as determined by SDS-PAGE.

Endotoxicity: less than 0.1 ng per µg (1EU/µg) determined by LAL method

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medium	25 µg	Cat.N°	12340254
large	100 µg	Cat.N°	12340256
x-large	500 µg	Cat.N°	12340257
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Recombinant Mouse Interleukin-27A (rm IL-27A/ IL-27p28)

Synonyms: IL-27/p28.

Introduction: Interleukin-27 protein is related to IL-12A & is one of the subunits of a heterodimeric cytokine complex. IL-27 interacts with EBV induced gene 3 also called EBI3, and forms a complex that drives rapid expansion of CD4+ T cells.
IL-27 complex is synergized with IL-12 in order to trigger the cytokine production of IFN-Gamma of CD4+ T cells. The biological effect of IL-27 is mediated by class-I cytokine receptor (WSX1/TCRR). The pro-inflammatory activity of IL-27 is mediated through the growing expression of key molecules involved in the MHC class-I & MHC class-II pathways. Both MHC class-I and MHC-class-II expression are increased in endothelial cells after Interleukin-27 stimulation which suggests that it may play an important role in conferring the immune function on vascular endothelium IL-27p28 subunit can be induced by IFN-beta and during LPS-induced maturation of dendritic cells in type-I IFN-dependent manner through IFN regulatory factor-1 activation. Interleukin-27 regulates Interleukin-12 responsiveness of CD4+ T cells through Stat1-dependent and -independent mechanisms. IL-17 & IL-23 play an important IL-17 role in inflammation. Interleukin-27 possesses potent anti-angiogenic activity that plays an important role in its antitumor and antimetastatic activities. EBV induced gene 3 plays a role, independently from IL-27, in regulating anti-viral or anti-tumoral immune responses. Interleukin-27 is a potent inhibitor of HIV-1 replication in macrophages, CD4+ T cells, peripheral blood mononuclear cells. Interleukin-27 triggers STAT activation and gene transcription.

Description: Recombinant mouse IL-27A produced in E.Coli is a single, non-glycosylated polypeptide chain containing 207 amino acids and having a molecular mass of 23.7 kDa. The murine IL-27A is purified by proprietary chromatographic techniques.

Source: *Escherichia coli*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from 10mM $NaHCO_3$,buffer pH-8.5
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-27A in sterile water not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-27A although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rm IL-27A should be stored at 4°C between 2-7days, for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Amino acid sequence: MFPTDPLSLQ ELRREFTVSL YLARKLLSEV QGYVHSFAES RLPGVNLDLL PLGYHLPNVS LTFQAWHHLS DSERLCFLAT TLRPFPAMLG GLGTQGTWTS SEREQLWAMR LDLRDLHRHL RFQVLAAGFK CSKEEEDKEE EEEEEEEKK LPLGALGGPN QVSSQVSWPQ LLYTYQLLHS LELVLSRAVR DLLLLSLPRR PGSAWDS

Biological Activity: Measured via dose-dependent inhibition of TGF-beta and IL-6-induced IL-17A expression in mouse CD4 splenocytes. 50ng/ml of mouse IL-27A are capable of inhibiting >25% of IL-17A expression in this assay.

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small	2 µg	Cat.N°	12340272
medium	10 µg	Cat.N°	12340273

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Recombinant Mouse Interleukin-31 (rm IL-31)

Synonyms. none

Introduction: IL-31 is a T-cell derived cytokine that shares several structural and functional characteristics with IL-6, Oncostatin M, LIF, and Cardiotrophin-1. It signals through a receptor complex comprised of GPL (GP130-like, IL-31RA) and OSMR (Oncostatin M receptor). GPL/OSMR signaling is a strong activator of STAT3 and STAT5, and can also activate STAT1, Jak1, and Jak2 signaling pathways. IL-31 regulated immune responses have been implicated in skin physiology and inflammatory skin diseases.

Description: Recombinant mouse IL-31 produced in *E.Coli* a 15.8 kDa protein containing 140 amino acid residues

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in 25 mM sodium phosphate, pH 6.5 + 200 mM NaCl. The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IL-31 in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-31 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C . Upon reconstitution rm IL-31 should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Endotoxicity: less than 0.1 ng per µg (1EU/µg) determined by LAL method

Amino acid sequence: MTCSLSFGAP ISKEDLRTTI DLLKQESQDL YNNYSIKQAS GMSADESIQL PCFSLDREAL TNISVIIAHL EKVKVLSENT VDTSWVIRWL TNISCFNPLN LNISVPGNTD ESYDCKVFVL TVLKQFSNCM AELQAKDNTT C

Biological activity: testing in progress

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medium	10 µg	Cat.N°	12340313
large	50 µg	Cat.N°	12340315
x-large	250 µg	Cat.N°	12340317

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Recombinant Mouse Interleukin-33 (rm IL-33 / IL1F11)

Synonyms: Interleukin-1 family member 11 (IL1F11), Nuclear factor from high endothelial venules (NF-HEV), DVS27, NKHEV

Introduction: Interleukin 33 (IL-33) is a 32kDa proinflammatory cytokine that may also regulate gene transcription in producer cells. IL-33 is structurally related to IL-1 which induces helper T cells to produce type 2 cytokines and acts through the receptor IL1RL-1 (IL1 receptor-like-1) which is also known also as ST2. Binding of IL-33 to this receptor activates NF-kappa-B and MAP kinases and induces in vitro Th2 cells to produce cytokines. In vivo, IL-33 induces expression of IL-4, IL-5, IL-13 and leads to severe pathological changes in mucosal organs and in vitro, it can be divided to N-terminal fragment of 12kDa and C-terminal fragment of 18kDa by cleavage of caspase-1.

Description: Recombinant mouse IL-33 produced in E.Coli is a single, non-glycosylated polypeptide chain containing 158 amino acids and having a molecular mass of 17.5 kDa.

Source: *Escherichia coli*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a sterile 0.2 µm filtered solution in PBS, 2 mM Mercaptoethanol

Solubility: It is recommended to reconstitute the lyophilized IL-33 in sterile 18MΩ-cm H2O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IL-33 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rm IL-33 should be stored at 4°C between 2-7days, for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE (silver stain).

Amino acid sequence: SIQGTSLLTQSPASLSTYND QSVSFVLENGCYVINVDDSG
KDQEQDQVLLRYYESPCPAS QSGDGVDGKKLMVNMSPIKD TDIWLHANDKDYSVELQRGD
VSPPEQAFFVLHKKSSDFVS FECKNLPGTYIGVKDNQLAL VEEKDESCNNIMFKLSKI

Biological Activity: The ED_{50} as determined by the dose-dependent stimulation of the proliferation of murine D10S cells is ≤ 0.5ng/ml, corresponding to a specific activity of 2×10^6 units/mg.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

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medium	10 µg	Cat.N°	12340333
large	50 µg	Cat.N°	12340335
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Recombinant Mouse Interferon gamma induced Protein (rm IP-10 / CXCL10)

Synonyms: Small inducible cytokine B10 (SCYB10), 10 kDa interferon-gamma-induced protein, Gamma-IP10, chemokine (C-X-C motif) ligand 10, C7, IFI10, INP10, crg-2, mob-1, gIP-10.

Introduction: IP-10 is a small cytokine belonging to the CXC chemokine family. IP-10 is secreted by several cell types. These cell types include monocytes, endothelial cells and fibroblasts. IP-10 has been attributed to several roles, such as chemoattraction for monocytes and T cells, promotion of T cell adhesion to endothelial cells, anti tumor activity and inhibition of bone marrow colony formation and angio-genesis. The gene for IP-10 is located on human chromosome 4 in a cluster among several other CXC chemokines. IP-10 elicits its effects by binding to the cell surface chemokine receptor CXCR3. The three-dimensional crystal structure of this chemokine has been determined under 3 different conditions to a resolution of up to 1.92A.

Description: Recombinant mouse IP-10 produced in *E.Coli* is a single, non-glycosylated, polypeptide chain containing 77 amino acids and having a molecular mass of 8701 Dalton. rm IP-10 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli.*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: The protein was lyophilized with no additives.
The sample size of 1µg contains Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm IP-10 in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm IP-10, although stable at room temperature for 3 weeks, should be stored desiccated below –18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 97.0% as determined by RP-HPLC and by SDS-PAGE.

Amino acid Sequence: IPLARTVRCN CIHIDDGPVR MRAIGKLEII PASLSCPRVE IIATMKKNDE QRCLNPESKT IKNLMKAFSQ KRSKRAP.

Biological Activity: Determined by its ability to chemoattract hCXCR3/HEK293 cells using a concentration range of 100.0-500.0 ng/ml.

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medium	25 µg	Cat.N°	12343884
large	100 µg	Cat.N°	12343886

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Recombinant Mouse Leukemia Inhibitory Factor (rm LIF)

Synonyms: CDF, HILDA, D-FACTOR, Differentiation-stimulating factor, Melanoma-derived LPL inhibitor, MLPLI, Emfilermin, DIA

Introduction: Leukemia Inhibitory Factor is a lymphoid factor that promotes long-term maintenance of embryonic stem cells by suppressing spontaneous differentiation. LIF has several functions such as cholinergic neuron differentiation, control of stem cell pluripotency, bone & fat metabolism, mitogenesis of factor dependent cell lines & promotion of megakaryocyte production in vivo. Human and mouse LIF exhibit a 78% identity in its amino acid sequence.
Human LIF is as active on human cells as is it is on mouse cells, though mouse LIF is about 1000 fold less active on human cells than human LIF.

Description: Recombinant mouse LIF produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 181 amino acids and having a molecular mass of 20 kDa.
The mouse LIF is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: lyophilized from a 0.22 µm filtered solution in 25 mM Sodiumphosphate, 200 mM NaCl, pH 7.0
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm LIF in sterile H_2O not less than 0.1mg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm LIF although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rm LIF should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSS or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE silver stained gel.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method

Amino acid sequence: MSPLPITPVN ATCAIRHPCH GNLMNQIKNQ LAQLNGSANA LFISYYTAQG EPFPNNVEKL CAPNMTDFPS FHGNGTEKTK LVELYRMVAY LSASLTNITR DQKVLNPTAV SLQVKLNATI DVMRGLLSNV LCRLCNKYRV GHVDVPPVPD HSDKEAFQRK KLGCQLLGTY KQVISVVVQA F.

Biological Activity: Determined by its ability to activate STAT following receptor ligand interaction - analysis of mLIF receptor driven STAT activation in murine cell line C2C12 the specific activity is 100MIU/mg

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medium	10 µg	Cat.N°	12344253
large	50 µg	Cat.N°	12344255
x-large	250 µg	Cat.N°	12344257

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Recombinant Mouse Monocyte Chemotactic Protein-1 (rm CCL2 / rm MCP-1)

Synonyms: Small inducible cytokine A2, MCAF, Platelet-derived growth factor-inducible protein JE.

Introduction: MCP-1 is a small cytokine belonging to the CC chemokine family. It is found at the site of tooth eruption and bone degradation. In the bone MCP-1 is expressed by mature osteoclasts and osteoblasts and is under the control of nuclear factor κB (NFκB). MCP-1 recruits immune cells, such as monocytes, to sites of tissue injury and infection. It is produced as a protein precursor containing signal peptide of 23 amino acids and a mature peptide of 76 amino acids. It is a monomeric polypeptide, with a molecular weight of approximately 13kDa. As with many other CC chemokines MCP-1 is located on chromosome 17 in humans. The cell surface receptors that bind MCP-1 are CCR2 and CCR5.

Description: Recombinant murine MCP-1 produced in *E.Coli* is a single non-glycosylated, polypeptide chain containing 125 amino acids and having a molecular mass of 14 kDa.
The rm MCP-1 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized with no additives.

Solubility: It is recommended to reconstitute the lyophilized rm MCP-1 in sterile 18MΩ-cm H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm MCP-1 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm MCP-1 should be stored at 4° C between 2-7 days and for future use below –18° C. For long term storage it is recommended to add a carrier protein (0.1 % HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Amino Acid Sequence: The sequence of the first five N-terminal amino acids was determined and was found to be Gln-Pro-Asp-Ala-Val.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Biological Activity: The biological activity was determined by calculating its ability to chemoattract Balb/C mouse spleen MNCs at 1.0 - 20.0 ng/ml.

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medium	10 µg	Cat.N°	12343383
large	50 µg	Cat.N°	12343385

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Recombinant Mouse Macrophage Colony Stimulating Factor (rm M-CSF)

Synonyms: CSF-1, Lanimostim

Introduction: Granulocyte/ Macrophage Colony- Stimulating Factors are cytokines that act in hematopiesis by controlling the production, differtiation and function of 2 related white cell population of the blood, the granulocytes and the monocytes- macrophages. M-CSF induces cells of the monocyte/ macrophage lineage. It plays a role in immunological defenses, bone metabolism, lipoproteins clearance, fertility and pregnancy.

Description: Recombinant mouse M-CSF produced in *E.Coli* is a disulfide linked homodimer, non-glycosylated, polypeptide chain containing 2 x 156 amino acids and having a molecular mass of 36.4 kDa. The rm M-CSF is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: The lyophilized protein (1mg/ml) was lyophilized with 5 mM Tris, pH 8.0 + 100mM NaCl
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm M-CSF in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm M-CSF although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm M-CSF should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: 95.0% as determined by SDS-PAGE.

Amino Acid Sequence: MKEVSEHCSHMIGNGHLKVL QQLIDSQMETSCQIAFEFVD QEQLDDPVCYLKKAFFLVQD IIDETMRFKDNTPNANATER LQELSNNLNSCFTKDYEEQN KACVRTFHETPLQLLEKIKN FFNETKNLLEKDWNIFTKNC NNSFAKCSSRDVVTKP

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Biological Activity: The ED_{50} tested by receptor driven reporter gene expression in Ba/F3 c-fms transfectants was found < 1 ng/ml, corresponding to a specific activity of 1 x 10^6 IU/mg.

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small	2 µg	Cat.N°	12343112
medium	10 µg	Cat.N°	12343113
large	50 µg	Cat.N°	12343115
x-large	250 µg	Cat.N°	12343117
xx-large	1000 µg	Cat.N°	12343118

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Recombinant Mouse Macrophage Inflammatory Protein-1 alpha (rm MIP-1 alpha / CCL3)

Synonyms: Small inducible cytokine A3 (SCYA3), Tonsillar lymphocyte LD78 alpha protein (LD78 alpha), G0/G1 switch regulatory protein 19-1 (G0S19-1), Heparin-binding chemotaxis protein.

Introduction: Macrophage Inflammatory Proteins (MIP) belong to the family of chemotactic cytokines known as chemokines. In humans there are two major forms. Both are major factors produced by macrophages after they are stimulated with bacterial endotoxins. They activate human granulocytes (neutrophils, eosinophilsand basophils) which can lead to acute neutrophilic inflammation. They also induce the synthesis and release of other pro-inflammatory cytokines such as Interleukin 1 (IL-1), IL-6 and TNF-α from fibroblasts and macrophages. The genes for MIP-1alpha and MIP-1beta are both located on human chromosome 17.

Description: Recombinant murine MIP-1alpha produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 69 amino acids and having a molecular mass of 7820 Dalton. rm MIP-1alpha is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli.*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in sodium phosphate, 0.5 M NaCl pH8.7.
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm MIP-1 alpha in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm MIP-1alpha, although stable at room temperature for 3 weeks, should be stored desiccated below –18° C. Upon reconstitution rm MIP-1alpha should be stored at 4° C between 2-7 days and for future use below –18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Amino acid Sequence: APYGADTPTA CCFSYSRKIP RQFIVDYFET SSLCSQPGVI FLTKRNRQIC ADSKETWVQE YITDLELNA

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Biological Activity: The activity is calculated by the ability to chemoattract of Balb3/C splenocytes using 1 - 10 ng/ml.

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small	2 µg	Cat.N°	12343202
medium	10 µg	Cat.N°	12343203
large	50 µg	Cat.N°	12343205
x-large	250 µg	Cat.N°	12343208

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Recombinant Mouse Macrophage Inflammatory Protein-1 beta (rm MIP-1beta / CCL4)

Synonyms: Small inducible cytokine A4, T-cell activation protein 2, ACT-2, SIS-gamma, Lymphocyte activation gene 1 protein, LAG-1, HC21, G-26 T-lymphocyte-secreted protein, G-26.

Introduction: Macrophage Inflammatory Proteins (MIP) belong to the family of chemotactic cytokines known as chemokines. In humans there are two major forms. Both are major factors produced by macrophages after they are stimulated with bacterial endotoxins. They activate human granulocytes (neutrophils, eosinophilsand basophils) which can lead to acute neutrophilic inflammation. They also induce the synthesis and release of other pro-inflammatory cytokines such as Interleukin 1 (IL-1), IL-6 and TNF-α from fibroblasts and macrophages. The genes for MIP-1alpha and MIP-1beta are both located on human chromosome 17.

Description: Recombinant Murine MIP-1beta produced in *E.Coli* is a single, non-glycosylated, polypeptide chain containing 69 amino acids and having a molecular mass of 7.8 kDa. rm MIP-1beta is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli.*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: The protein was lyophilized from 1 mg/ml solution in water containing no additives.
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm MIP-1beta in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm MIP-1beta, although stable at room temperature for 3 weeks, should be stored desiccated below –18° C. Upon reconstitution rm MIP-1beta should be stored at 4° C between 2-7 days and for future use below –18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by:
(a) Analysis by RP-HPLC.
(b) Analysis by SDS-PAGE.

Amino acid Sequence: The sequence of the first five N-terminal amino acids was determined and was found to be Ala-Pro-Met-Gly-Ser.

Biological Activity: rm MIP-1beta is fully biologically active when compared to standard. The activity is calculated by the ability to chemoattract of human blood monocytes at 20 -100 ng/ml.

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Recombinant Mouse Macrophage Inflammatory Protein-3alpha (rm MIP-3alpha / CCL20)

Synonyms: Small inducible cytokine A20 precursor (SCYA20), C-C motif chemokine 20 , Liver and activation-regulated chemokine (LARC), CK-beta 4(CKb4), ST38, Exodus-1.

Introduction: Recombinant mouse MIP-3alpha (CCL20) is a chemotactic factor that draws lymphocytes & neutrophils, rather than monocytes. MIP-3 alpha inhibits proliferation of myeloid progenitors in colony formation assays. It plays a role in the formation and function of the mucosal lymphoid tissues by attracting lymphocytes and dendritic cells towards epithelial cells. C-terminal processed forms have been shown to be equally chemotactically active for leukocytes. The cytokine holds antibacterial activity e.coli atcc 25922 and s.aureus atcc 29213. MIP-3alpha gene transcription is activated by H. pylori, which activates NF-kappaB through intracellular signal pathway which involves IkappaB kinase and NF-kappaB-inducing kinase. It is invloved in chemokine-mediated lymphocyte trafficking during gastric inflammation in Helicobacter infection. Its expression is involved in the recruitment of CD45R0-positive T cell subsets into the intestinal lamina propria.
MIP-3alpha is in charge of the advancement of pulpal inflammation through the recruitment of C-C motif Receptor 6-expressing lymphocytes Vaginal epithelial cells respond to factors present in semen by secreting MIP-3 alpha, which increases langerhans cells recruitment during HIV transmission.

Description: Recombinant mouse Macrophage Inflammatory Protein-3 alpha produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 70 amino acids and having a molecular mass of 7.9 kDa. The MIP-3alpha is purified by proprietary chromatographic techniques.

Source: Escherichia Coli

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a concentrated (1mg/ml) solution in water containing no additives.

Solubility: It is recommended to reconstitute the lyophilized rm MIP-3alpha in sterile 18MΩ-cm H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized MIP-3alpha although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution MIP-3alpha should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by RP-HPLC and by SDS-PAGE.

Amino Acid Sequence: ASNYDCCLSY IQTPLPSRAI VGFTRQMADE ACDINAIIFH TKKRKSVCAD PKQNWVKRAV NLLSLRVKKM

Biological Activity :The Activity is calculated by its ability to chemoattract primary human T cells at 2-20ng/ml, corresponding to a specific activity of 50,000-500,000 units/mg.

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Recombinant Mouse Macrophage Inflammatory Protein-3 beta (rm MIP-3beta / CCL19)

Synonyms: Small inducible cytokine A19, EBI1-ligand chemokine, ELC, Beta chemokine exodus-3, CK beta-11, chemokine (C-C motif) ligand 19, CKb11, MGC34433, Epstein-Barr virus-induced molecule 1 ligand chemokine, EBI1-ligand chemokine.

Introduction: MIP-3beta is a small cytokine belonging to the CC chemokine family. It is expressed abundantly in thymus and lymph nodes, with moderate levels in trachea and colon and low levels in stomach, small intestine, lung, kidney and spleen. The gene for MIP-3beta is located on human chromosome 9. This chemokine elicits its effects on its target cells by binding to the chemokine receptor chemokine receptor CCR7. It attracts certain cells of the immune system, including dendritic cells and antigen-engaged B cells.

Description: Recombinant mouse MIP-3beta produced in *E.Coli* is a single, non-glycosylated, polypeptide chain containing 83 amino acids and having a molecular mass of 9216 Dalton. rm MIP-3beta is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli.*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: The protein was lyophilized from 1 mg/ml solution in water containing no additives.
The sample size of 1µg contains Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm MIP-3beta in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm MIP-3beta, although stable at room temperature for 3 weeks, should be stored desiccated below –18° C. Upon reconstitution mouse MIP-1beta should be stored at 4° C between 2-7 days and for future use below –18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 98.0% as determined by RP-HPLC and by SDS-PAGE.

Amino acid Sequence: The sequence of the first five N-terminal amino acids was determined and was found to be Gly-Ala-Asn-Asp-Ala.

Biological Activity: The activity is calculated by the ability to chemoattract of human mature dendritic cells using a concentration of 8 -80 ng/ml.

Protein content: Protein quantitation was carried out by two independent methods:
1. UV spectroscopy at 280 nm.
2. Analysis by RP-HPLC, using a calibrated solution of MIP-3beta as a reference standard.

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medium	20 µg	Cat.N°	12343244
large	100 µg	Cat.N°	12343246

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Mouse Nerve Growth Factor beta (m NGF-b)

Synonyms: Beta Polypeptide, HSAN5

Introduction: NGF-beta has nerve growth stimulating activity and the complex is involved in the regulation of growth and the differentiation of sympathetic and certain sensory neurons. Mutations in this gene have been associated with hereditary sensory and autonomic neuropathy, type 5 (HSAN5), and dysregulation of this gene's expression is associated with allergic rhinitis.

Description: mouse NGF-beta produced in submaxillary gland of grown mouse is a homodimer, non-glycosylated, polypeptide chain containing 2 identical 120 amino acids and having a molecular mass of 13,471 Dalton each. The mouse NGF-beta is purified by advanced biology purification technology.

Source: *Submaxillary Gland of Grown Mouse.*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder

Formulation: The mouse NGF beta lyophilized from solution containing 5% Mannitol and 1% HSA

Solubility: It is recommended to reconstitute the lyophilized mouse NGF-beta in sterile H2O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized mouse NGF-beta although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution mouse NGF-beta should be stored at 4°C between 2-7 days and for future use below -18°C.
Please prevent freeze-thaw cycles.

Purity: Greater than 98% as determined by (a) Analysis by RP-HPLC and by (b) Analysis by SDS-PAGE.

Amino acid sequence: SSTHPVFHMGEF SVCDSVSVWV GDKTTATDIK GKEVTVLAEV NINNSVFRQY FFETKCRASN PVESGCRGID SKHWNSYCTT THTFVKALTT DEKQAAWRFI RIDTACVCVL SRKATRRG.

Biological Activity: The method used to test the bioassay is the NGF-dependent survival of dorsal root ganglia neurons of chick embryo, corresponding to a specific activity of 5 x 10^5 IU/mg.

Reference:
Varon S, Raibo rn C. Dissociation, fractionation and culture of chick embryo sympathetic ganglionic cells [J]. J Neurocytol, 1972; 1: 211- 221

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medium	20 µg	Cat.N°	12343354
large	100 µg	Cat.N°	12343356

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Recombinant Mouse Platelet-derived Growth Factor AA (rm PDGF-AA)

Synonyms: Glioma-derived growth factor, GDGF, Osteosarcoma-derived Growth Factor, ODGF, PDGF-1.

Introduction: PDGF-AA, PDGF-BB and PDGF-AB, are potent mitogens for a variety of cell types including smooth muscle cells, connective tissue cells, bone and cartilage cells and some blood cells. The PDGF is stored in platelet alpha-granules and released upon platelet activation. The PDGF is involved in a number of biological processes including hyperplasia, chemotaxis, embryonic neuron development and respiratory tubule epithelial cell development. Two distinct signaling receptors used by PDGF have been identified and named PDGFR-alpha and PDGFR-beta. PDGFR-alpha is high-affinity receptor for each of the three PDGF forms. On the other hand PDGFR-beta interacts with only PDGF-BB and PDGF-AB.

Description: Recombinant mouse PDGF-AA is a disulfide linked homodimeric, non-glycosylated, polypeptide chain containing 2 x 126 amino acids and having a total molecular mass of 28.9 kDa.
PDGF-AA is purified by proprietary chromatographic techniques

Source: *Escherichia Coli*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in 25 mM sodium acetate, pH 4.0.
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm PDGF-AA in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized PDGF-AA although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution PDGF-AA should be stored at 4°C between 2-7 days and for future use below -18°C.For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 97.0% as determined by RP-HPLC and by SDS-PAGE

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Amino Acid Sequence: SIEEAVPAVC KTRTVIYEIP RSQVDPTSAN FLIWPPCVEV KRCTGCCNTS SVKCQPSRVH HRSVKVAKVE YVRKKPKLKE VQVRLEEHLE CACATSNLNP DHREEETGRR RESGKNRKRK RLKPT

Biological Activity: Establishd by the dose-dependent stimulation of Balb/c 3T3 cells prolifiration. The expected ED_{50} for this effect is 8-10 ng/ml.

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medium	10 µg	Cat.N°	12343683
large	50 µg	Cat.N°	12343685
x-large	250 µg	Cat.N°	12343687
xx-large	1000 µg	Cat.N°	12343688

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Recombinant Mouse Platelet-derived Growth Factor BB (rm PDGF-BB)

Synonyms: Glioma-derived growth factor (GDGF), Osteosarcoma-derived Growth Factor (ODGF)

Introduction: PDGF-BB is a member of the platelet-derived growth factor family. The four members of this family are mitogenic factors for cells of mesenchymal orign and are characterized by a motiv of eight cysteines. This gene product can exist either as a homodimer (PDGF-BB) or as a heterodimer with the platelet-derived growth factor alpha polypeptide (PDGF-AB), where the dimers are connected by disulfide bonds. Mutations in this gene are associated with meningioma. Reciprocal translocations between chromosomes 22 and 7, at sites where this gene and that for COL1A1 are located, are associated with a particular type of skin tumor called dermatofibrosarcoma protuberans resulting from unregulated expression of growth factor. Two slice variantes have been identified for this gene.

Description: Recombinant mouse Platelet-Derived Growth Factor BB is a homodimeric, non-glycosylated, polypeptide chain containing 109 amino acids and having a molecular mass of 24.4 kDa.
Rm PDGF-BB is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: lyophilized from a 0.22 µm filtered solution in 25 mM Sodiumacetate, 100 mM NaCl, pH 4.0.
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm PDGF-BB in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm PDGF-BB although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm PDGF-BB should be stored at 4° C between 2-7 days and for future use below –18° C. For long term storage it is recommended to add a carrier protein (0.1 % HSA or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method

Amino Acid Sequence: MSLGSLAAAE PAVIAECKTR TEVFQISRNL IDRTNANFLV WPPCVEVQRC SGCCNNRNVQ CRASQVQMRP VQVRKIEIVR KKPIFKKATV TLEDHLACKC ETIVTPRPVT

Biological Activity: Determined by its ability to stimulate proliferation of murine NIH 3T3 cells the ED_{50} is < 2 ng/ml.

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medium	10 µg	Cat.N°	12343673
large	50 µg	Cat.N°	12343675
x-large	250 µg	Cat.N°	12343677
xx-large	1000 µg	Cat.N°	12343678

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Recombinant Mouse Rantes (CCL5)

Synonyms: Small inducible cytokine A5, SIS-delta, T cell- specific protein P228, TCP228, chemokine (C-C motif) ligand 5, SISd, SCYA5, D17S136E, MGC17164.

Introduction: Regulated upon activation, normal T-cell expressed and secreted or RANTES is an 8 kDa protein classified as a chemotactic cytokine or chemokine. It has recently been renamed CCL5. RANTES is chemotactic for T-cells, eosinophils and basophils and plays an active role in recruting leukocytes into inflammatory sites. With the help of particular cytokines (i.e. IL-2 and IFN-γ) that are released by T-cells, RANTES also induces the proliferation and activation of certain natural killer (NK) cells to form CHAK (CC-Chemokine- activated killer) cells. It is also a HIV- suppressive factor released from CD8 + T-cells. This chemokine has been localized to chromosome 17 in humans.

Description: Recombinant mouse Rantes produced in *E.Coli* is a single, non-glycosylated, polypeptide chain containing 68 amino acids and having a molecular mass of 7.8 kDa. rm Rantes is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli.*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from 0.2μm filtered solution in 2x PBS, pH 7.4
The sample size of 1μg contains Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm Rantes in sterile H_2O not less than 100 μg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm Rantes, although stable at room temperature for 3 weeks, should be stored desiccated below –18° C. Upon reconstitution rm Rantes should be stored at 4° C between 2-7 days and for future use below –18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 97.0% as determined by RP-HPLC and by SDS-PAGE.

Amino acid Sequence: SPYGSDTTPC CFAYLSLALP RAHVKEYFYT SSKCSNLAVV FVTRRNRQVC ANPEKKWVQE YINYLEMS.

Biological Activity: The activity is calculated by the ability to chemoattract human lymphocytes and murine T-cells at a concentration of 1 - 10 ng/ml

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medium	20 µg	Cat.N°	12343194
large	100 µg	Cat.N°	12343196

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Recombinant Mouse sCD40 Ligand/TRAP (rm sCD40L / CD154)

Synonyms: Tumor necrosis factor ligand superfamily member 5 (TNFSF5), TNF-related activation protein (TRAP), T cell antigen Gp39

Introduction: sCD40L is a membrane glycoprotein and differentiation antigen expressed on the surface of T-cells. The sCD40 ligand stimulates B-cell proliferation and secretion of all immunoglobulin isotypes in the presence of cytokines . sCD40 ligand has been shown to induce cytokine production and tumoricidal activity in peripheral blood monocytes. It also costimulates proliferation of activated T-cells and this is accompanied by the production of IFNgamma , TNFalpha and IL-2.

Description: Recombinant mouse sCD40L produced in E.Coli is a non-glycosylated polypeptide chain containing 149 amino acids and having a molecular mass of 16.4 kDa. The sCD40L is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from 0.22 µm filtered solution in 25 mM sodium phosphate, 200 mM NaCl, pH 6.6. The sample size of 1µg contains Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyoplilized rm sCD40L in sterile water not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm sCD40L although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Reconstituted rm sCD40L should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles .

Purity: Greater than 95.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Amino Acid Sequence: MQRGDEDPQI AAHVVSEANS NAASVLQWAK KGYYTMKSNL VMLENGKQLT VKREGLYYVY TQVTFCSNRE PSSQRPFIVG LWLKPSSGSE RILLKAANTH SSSQLCEQQS HLGGVFELQ AGASVFVNVT EASQVIHRVG FSSFGLLKL

Biological Activity: ED50 = 0.1µg/ml, determined by its ability to induce MIP-1 alpha & TNF-alpha from mouse splenocytes

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medium	25 µg	Cat.N°	12343344
large	100 µg	Cat.N°	12343346
x-large	500 µg	Cat.N°	12343347

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Recombinant Mouse Stem Cell Factor (rm SCF)

Synonyms: Kit ligand Precursor (Kitl), C-kit ligand, Mast cell growth factor (MGF), Steel Factor (SF)

Introduction: Stem cell factor is a cytokine which binds CD117(c-Kit). SCF exists in two forms, cell surface bound SCF and soluble (or free) SCF. Soluble SCF is produced by the cleavage of surface bound SCF by metalloproteases. SCF is a growth factor important for the survival, proliferation, and differentiation of hematopoietic stem cells and other hematopoietic progenitor cells. One of its roles is to change the BFU-E (burst-forming unit-erythroid) cells which are the earliest erythrocyte precursors in the erythrocytic series into the CFU-E (colony-forming unit-erythroid).

Description: Recombinant murine SCF produced in *E.Coli* is a single, non-glycosylated polypeptide chain containing 164 amino acids and having a molecular mass of 18.3 kDa. The rm SCF is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from 0.22 µm filtered solution in PBS pH 7.4
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm SCF in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm SCF although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm SCF should be stored at 4° C between 2-7 days and for future use below –18° C. For long term storage it is recommended to add a carrier protein (0.1 % HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method

Amino Acid Sequence: MKEICGNPVT DNVKDITKLV ANLPNDYMIT LNYVAGMDVL PSHCWLRDMV IQLSLSLTTL LDKFSNISEG LSNYSIIDKL GKIVDDLVLC MEENAPKNIK ESPKRPETRS FTPEEFFSIF NRSIDAFKDF MVASDTSDCV LSSTLGPEKD SRVSVTKPFM LPPVA

Biological Activity: The ED_{50} as determined by the dose-dependant stimulation of human TF-1 cell line is < 10 ng/ml, corresponding to a specific activity of >1 x 10^5 IU/mg.

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medium	10 µg	Cat.N°	12343323
large	50 µg	Cat.N°	12343325
x-large	250 µg	Cat.N°	12343327
xx-large	1000 µg	Cat.N°	12343328

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Recombinant Mouse Stromal Cell-Derived Factor-1 alpha (rm SDF-1 alpha / CXCL12a)

Synonyms: Pre-B cell growth-stimulating factor, PBSF, hIRH, TPAR1, SCYB12, TLSF-a.

Introduction: SDF-1 is produced in two forms, SDF-1α/CXCL12a and SDF-1β/CXCL12b, by alternate splicing of the same gene. The SDF-1 proteins belong to the group of CXC chemokines whose initial pair of cysteines are separated by one intervening amino acid. SDF-1 is strongly chemotactic for lymphocytes and has been implicated as an important cell co-ordinator during development. During embryogenesis it directs the migration of hematopoietic cells from foetal liverto bone marrow. Mice which were knocked-out for SDF-1 gene were lethal before the birth or within just 1 hour of life. As another role, SDF-1 alters also the electrophysiology of neurons. SDF-1 was shown to be expressend in many tissues in mice (including brain, thymus, heart, lung, liver, kidney, spleenand bone marrow). The receptor for this chemokine is CXCR4. This SDF-1-CXCR4 interaction used to be considered exclusive (unlike for other chemokines and their receptors), but recently it was suggested that SDF-1 is also bound by CXCR7 receptor. In human and mouse both SDF-1 and CXCR4 show high identity of sequence: 99% and 90%, respectively.

Description: Recombinant murine SDF-1alpha produced in *E.Coli* is a non-glycosylated, polypeptide chain containing 68 amino acids and having a molecular mass of 7.9 kDa. The rm SDF-1alpha is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli.*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: lyophilized from a 0.22 µm filtered solution in 25 mM Sodiumphosphate, 100 mM NaCl pH 7.4
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm SDF-1alpha in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm SDF-1alpha although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm SDF-1alpha should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE

Amino acid Sequence: KPVSLSYRCP CRFFESHIAR ANVKHLKILN TPNCALQIVA RLKNNNRQVC IDPKLKWIQE YLEKALNK.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method

Biological Activity: Determined by chemotaxis assey with human PBMCs the ED50 has been 80 – 100 ng/ml.

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large	50 µg	Cat.N°	12343365
x-large	250 µg	Cat.N°	12343367
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Recombinant Mouse Stromal Cell-Derived Factor-1 beta (rm SDF-1 beta / CXCL12b)

Synonyms: Pre-B cell growth-stimulating factor, PBSF, hIRH, TPAR1, SCYB12, Thymic lymphoma cell-stimulating factor, TLSF

Introduction: SDF-1 is is produced in two forms, SDF-1α/CXCL12a and SDF-1β/CXCL12b, by alternate splicing of the same gene. The SDF-1 proteins belong to the group of CXC chemokines, whose initial pair of cysteines are separated by one intervening amino acid. SDF-1 is strongly chemotactic for lymphocytes and has been implicated as an important cell co-ordinator during development. During embryogenesis it directs the migration of hematopoietic cells from foetal liverto bone marrow. Mice which were knocked-out for SDF-1 gene were lethal before the birth or within just 1 hour of life. As another role, SDF-1 alters also the electrophysiologyof neurons. SDF-1 was shown to be expressend in many tissues in mice (including brain, thymus, heart, lung, liver, kidney, spleenand bone marrow). The receptor for this chemokine is CXCR4. This SDF-1-CXCR4 interaction used to be considered exclusive (unlike for other chemokines and their receptors), but recently it was suggested that SDF-1 is also bound by CXCR7 receptor. In human and mouse both SDF-1 and CXCR4 show high identity of sequence: 99% and 90%, respectively.

Description: Recombinant murine SDF-1 beta produced in *E.Coli* is a non-glycosylated, polypeptide chain containing 72 amino acids and having a molecular mass of 8.5 kDa. The rm SDF-1 beta is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli.*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in 25 mM sodium phosphate pH 8.0
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm SDF-1 beta in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm SDF-1 beta although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm SDF-1 beta should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE Silver stained gel.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Amino acid Sequence: KPVSLSYRCP CRFFESHIAR ANVKHLKILN TPNCALQIVA RLKNNNRQVC IDPKLKWIQE YLEKALNKRL KM

Biological Activity: The biological activity is tested by its chemotactic activity on human lymphocytes.

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Recombinant Mouse Tumor Necrosis Factor-alpha (rm TNF-alpha)

Synonyms: Tumor necrosis factor ligand superfamily member 2 (TNFSF2), Cachectin, DIF, Necrosin, Cytotoxin

Introduction: Tumor necrosis factor is a cytokine involved in systemic inflammation and is a member of a group of cytokines that all stimulate the acute phase reaction. TNF is mainly secreted by macrophages. TNF causes apoptotic cell death, cellular proliferation, differentiation, inflammation, tumorigenesis and viral replication. TNF is also involved in lipid metabolism and coagulation. TNF`s primary role is in the regulation of immune cells. Dysregulation and, in paticular, overproduction of TNF have been implicated in a variety of human diseases, autoimmune diseases, insulin resistance and cancer.

Description: Recombinant murine TNF-alpha produced in *E.coli* is a soluble 156 amino acid protein (17.3 kDa) which corresponds to C-terminal extracellular domain of the full length transmembrane protein.The rm TNF-alpha is purified by standard chromatographic techniques.

Source: *Escherichia coli*

Physical Appearance: Sterile filtered white lyophilized (freeze dried) powder.

Formulation: Lyophilized from a 0.2µm filtred concentrated solution in 50mM TRIS, pH 8.0 + 250 mM NaCl The sample size of 1µg contains Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm TNF-alpha in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm TNF-alpha although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm TNF-alpha should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE

Endotoxicity: The endotoxin level is less than 0.1 ng per µg (1EU/µg) determined by LAL method

Amino Acid Sequence: MLRSSSQNSS DKPVAHVVAN HQVEEQLEWL SQRANALLAN GMDLKDNQLV VPADGLYLVY SQVLFKGQGC PDYVLLTHTV SRFAISYQEK VNLLSAVKSP CPKDTPEGAE LKPWYEPIYL GGVFQLEKGD QLSAEVNLPK YLDFAESGQV YFGVIAL

Biological Activity: The ED_{50} as determined by the cytolysis of murine L929 cells in the presence of Actinomycin D is < 0.05 ng/ml, corresponding to a specific activity of 2 $x10^7$ IU/mg.

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small	5 µg	Cat.N°	12343010
medium	20 µg	Cat.N°	12343014
large	100 µg	Cat.N°	12343016
x-large	500 µg	Cat.N°	12343017
xx-large	1000 µg	Cat.N°	12343018

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Recombinant Mouse Thrombopoietin (rm TPO)

Synonyms: MKCSF, MPLLG, C- mpl ligand, ML, MGDF

Introduction: Thrombopoietin is a glycoprotein hormone produced mainly by the liver and the kidney that regulates the production of platelets by the bone marrow. It stimulates the production and differentiation of megakaryocytes, that bone marrow cells that fragment into large numbers of platelets.

Description: Recombinant mouse Thrombopoietin produced in *E.Coli* is a single, non-glycosylated soluble polypeptide chain containing 174 amino acids and having a molecular mass of 18.7 kDa. The rm TPO is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in PBS pH 7.5,
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm TPO in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm TPO although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm TPO should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as verified by SDS-PAGE / silver stain

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method

Amino Acid Sequence: SPVAPACDPR LLNKLLRDSH LLHSRLSQCP DVDPLSIPVL LPAVDFSLGE WKTQTEQSKA QDILGAVSLL LEGVMAARGQ LEPSCLSSLL GQLSGQVRLL LGALQGLLGT QLPLQGRTTA HKDPNALFLS LQQLLRGKVR FLLLVEGPTL CVRRTLPTTA VPSSTSQLLT LNKF

Biological Activity: The biological activity was determined by dose dependent stimulation of proliferation of human megakaryoblastic leukemia cell line M-07e. The ED was found to be less than 0.8 ng/ml.

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Recombinant Mouse Vascular Endothelial Growth Factor A (rm VEGF-A)

Synonyms: Vascular permeability factor, VPF

Introduction: Vascular endothelial growth factor is an important signaling protein involved in both vasculogenesis and angiogenesis. As its name implies, VEGF activity has been mostly studied on cells of the vascular endothelium, although it does have effects on a number of other cell types (e.g. stimulation monocyte/ macrophagemigration, neurons, cancer cells, kidney epithelial cells). VEGF mediates increased vascular permeability, induces angiogenesis, vasculogenesis and endothelial cell growth, promotes cell migration and inhibits apoptosis. In vitro VEGF has been shown to stimulate endothelial cell mitogenesisand cell migration. VEGF is also a vasodilator, increases microvascular permeability and was originally referred to as vascular permeability factor. Elevated levels of this protein are linked to POEMS syndrome, also known as Crow-Fukase syndrome. Mutations in this gene have been associated with proliferative and nonproliferative diabetic retinopathy.

Description: Recombinant mouse VEGF produced in *E.Coli* is a double, non-glycosylated, polypeptide chain containing 164 amino acids and having a molecular mass of 39 kDa. The rm VEGF is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in PBS, pH 7.1.
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm VEGF in sterile water not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm VEGF although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm VEGF should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE / silver stain.

Amino Acid Sequence: MAPTTEGEQK SHEVIKFMDV YQRSYCRPIE TLVDIFQEYP DEIEYIFKPS CVPLMRCAGC CNDEALECVP TSESNITMQI MRIKPHQSQH IGEMSFLQHS RCECRPKKDR TKPEKHCEPC SERRKHLFVQ DPQTCKCSCK NTDSRCKARQ LELNERTCRC DKPRR

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method

Biological Activity: Determined by the dose-dependent stimulation of the proliferation of human umbilical vein endothlial cells (HUVEC) using a concentration range of 1.0 – 5.0 ng/ml.

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x-large	250 µg	Cat.N°	12343667
xx-large	1000 µg	Cat.N°	12343668

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