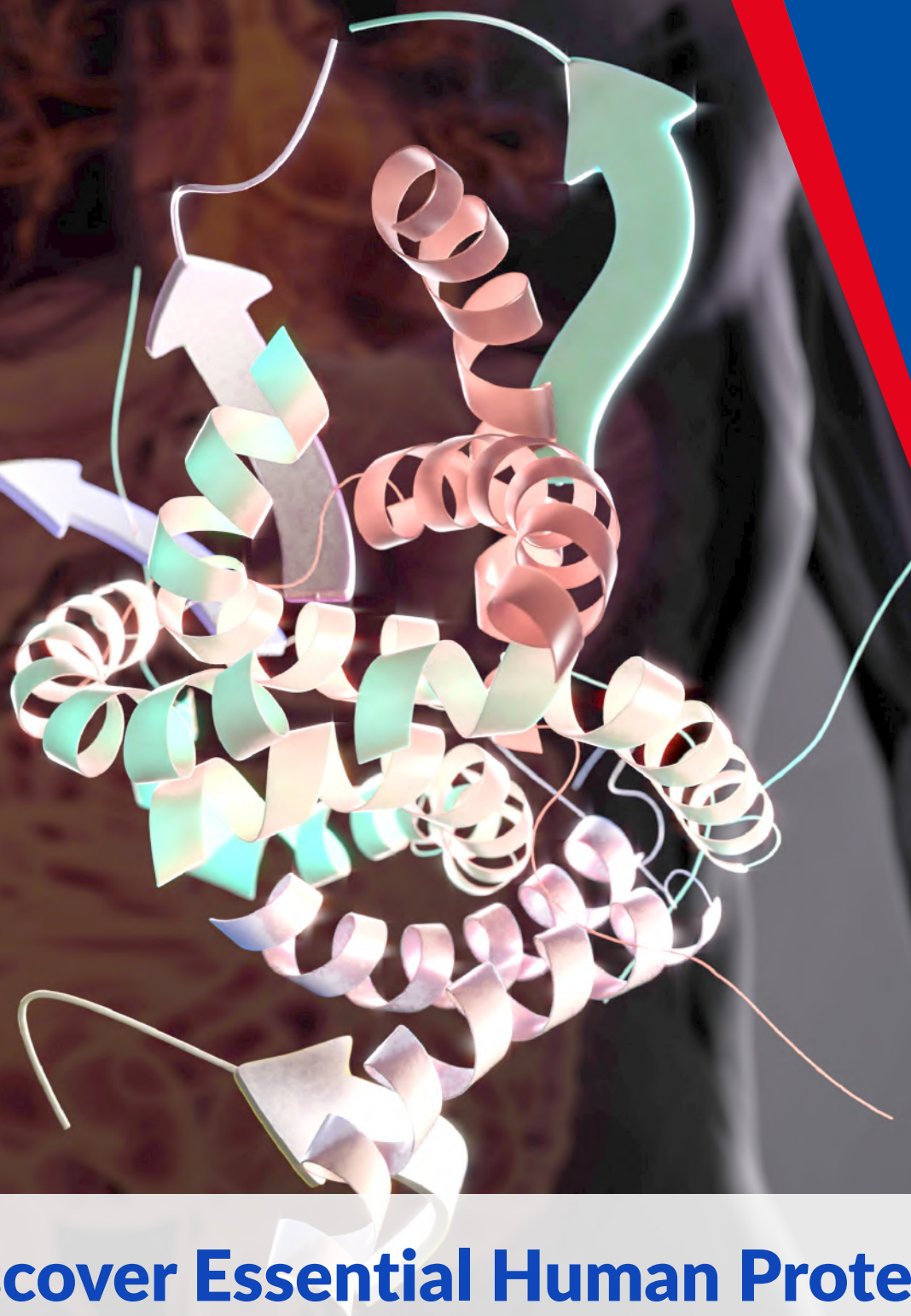




Discover Essential Human Proteins

Navigating Vital Biomolecules

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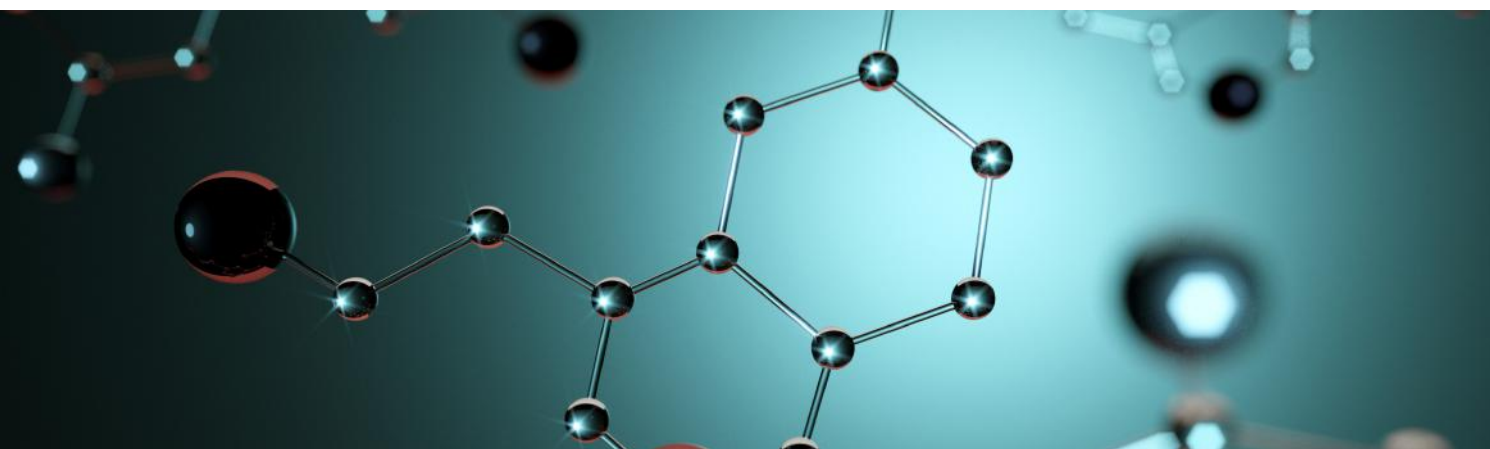
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MP Biomedicals for your Protein Supply Needs

From essential proteins like Fibrinogen and Albumin to specialized immunoglobulins such as IgG and IgM, our offerings encompass a wide array of purified human-derived components. Find the right recombinant proteins like Insulin and growth factors such as Epidermal Growth Factor (EGF) and Stem Cell Factor, all produced with precision to mimic natural human counterparts. Whether you're investigating cell signaling pathways or cultivating stem cell cultures, our products provide consistency and reproducibility for your research endeavors.



Elevate Your Research with High-Quality Proteins

At MP Biomedicals, we pride ourselves on adhering to the strictest standards in biological manufacturing. Our commitment to quality and precision ensures that each product in our portfolio meets the highest levels of purity and efficacy, empowering you to advance your research or further manufacturing with confidence.

- ISO 9001 certification and a Quality System audited to cGMP principles, the highest level of process control.
- Consistent product quality and complete traceability.
- Assured and secure supply chain.

Custom Protein Purification Services

Our custom protein purification services offer a comprehensive solution for obtaining native and recombinant proteins with exceptional purity and yield. We offer purification services for recombinant proteins expressed in diverse systems, including: E.coli, yeast, insects, and mammalian cell lines. Contact us to discuss and explore how our custom services can propel your work forward!



Cell Culture Additives

Human Albumin

Human Albumin is the main protein of human blood plasma. Water, cations (such as Ca^{2+} , Na^+ , and K^+), fatty acids, hormones, bilirubin, and thyroxine (T4) are all binders. In healthy people, albumin accounts for almost half of total protein content.

Application

Albumin may be used to eliminate background interference in ELISA or other enzyme assay systems. It is also used in absorption, distribution, metabolism, and excretion (ADME) pharmacological research; cell culture; drug delivery research; and cryopreservation of cells.

Specifications & Order Information

Description	Size	Catalogue No.
Human Albumin, Crystallized Purity: >98% 	500 mg	08823030
	1 g	08823031
	5 g	08823032
	100 g	08823034
Human Albumin Crystal-like Powder Purity: >97%	100 mg	02191349.1
	250 mg	02191349.2
	1 g	0219134901
	5 g	0219134905
Human Albumin Powder Fraction V Purity: >98% 	10 g	08823022
Human Albumin, Fraction V Powder Fatty Acid Free Purity: 100% 	5 g	08823234
Human Albumin, Fraction V Powder Protease Free Purity: >98% 	10 g	08823002
Human Albumin Liquid 10% Solution Purity: >96% 	50 mL	08810171
Human Albumin Liquid 20% Solution Purity: >99%	50 mL	08810161
	100mL	08810162

Human Platelet Lysate (Heparin Free)

Human platelet lysate (HPL) is a cell culture supplement, rich in growth factors and cytokines produced from healthy donor human platelets. During manufacture, many donor units are pooled to reduce lot-to-lot variability. HPL, which is generated from human platelets, is an effective cell culture supplement that promotes the proliferation and migration of mesenchymal stem cells and other human cells. It is frequently used as a supplement in Serum Free Medium or as a replacement for serums such as FBS and human AB serum.

Application

HPL is enriched with Growth Factors, Cytokines, Chemokines, and various other proteins that promote cell growth; allowing cells to flourish to their full potential in a xenogeneic environment. Its efficacy outperforms that of other serum additions.

Specifications & Order Information

Storage Temperature	Shipped at -20°C
Endotoxin Level	≤ 1.0 EU/mL

Description	Size	Catalogue No.
Human Platelet Lysate Heparin Free	50 mL	08810211
	100 mL	08810212
	500 mL	08810213



Human Fibrinogen

Fibrinogen is an acute phase protein that is part of the coagulation cascade of proteins. The end result of the cascade is the production of thrombin that converts fibrinogen to fibrin. Thrombin rapidly proteolyzes fibrinogen, releasing fibrinopeptide A. The loss of this small peptide is not sufficient to make the resulting fibrin molecule insoluble, but it tends to form complexes with adjacent fibrin and fibrinogen molecules. Thrombin then cleaves a second peptide, fibrinopeptide B, from fibrin and the fibrin monomers formed then polymerize spontaneously to form an insoluble gel. The polymerized fibrin is held together by noncovalent and electrostatic forces and stabilized by the transamidating enzyme, factor XIIIa, that is produced by the action of thrombin on factor XIII. The insoluble fibrin aggregates (clots) and aggregated platelets then block the damaged blood vessel and prevent further bleeding. The amount of fibrinogen in the plasma can serve as a nonspecific indicator of whether or not an inflammatory process is present in the body. Fibrinogen from any mammalian source will be cleaved by thrombin from any mammalian source.

Application

Fibrinogen has been used in studies of haemostatic therapy in surgical and massive trauma patients. These studies have shown that fibrinogen may prove to be more superior in stopping blood loss when compared to using fresh frozen plasma (FFP).

Specifications & Order Information

Description	Size	Catalogue No.
Human Fibrinogen Lyophilized powder	1 g	08823601
Human Fibrinogen, Plasminogen Depleted Buffer: 20 mM Sodium citrate-HCl; pH 7.4	1 g	03BC0501

Human Hemoglobin

Human hemoglobin is purified from human red blood cells using multi-step procedures which may include salt fractionation, gel filtration, ion-exchange chromatography and immunoabsorption. The product is dialyzed into 0.01M sodium phosphate, 0.07M sodium chloride, pH 7.3, filtered through a 0.22 µm filter, vialled and lyophilized.

Application

Immunoassay; ELISA.

Specifications & Order Information

Description		Size	Catalogue No.
Purified Human Hemoglobin Lyophilized		20 mg	0855914

Human Transferrin

Transferrin is a glycoprotein with homologous N-terminal and C-terminal iron-binding domains. Product is the lyophilized powder of human transferrin and buffer salts.

Application

Human Transferrin is used in research for iron metabolism, cellular physiology, and immune responses.

Specifications & Order Information

Description		Size	Catalogue No.
Human Transferrin Lyophilized Powder Purity: >95%		10 mg	0855915
Human Transferrin, Iron Saturated Lyophilized Powder Purity: 99%		1 g	08823431

Human Lactoferrin

Human lactoferrin is purified from pooled human colostrum using multi-step procedures which may include salt fractionation, gel filtration, ion-exchange chromatography and immunoabsorption.

Application

Immunoassays

Specifications & Order Information

Description		Size	Catalogue No.
Purified Human Lactoferrin Lyophilized		10 mg	0855839

Human Alpha-1-antitrypsin

A serine protease inhibitor that also acts as a major physiological regulator of elastase. Inhibits trypsin, chymotrypsin and pancreatic and granulocytic elastase, and acrosin. Use at equimolar concentrations with the protease (i.e. 2-4 mg will inhibit 1.0 mg of trypsin with activity of 10,000 BAEE units per mg protein. 3-6 mg will inhibit approximately 1.0 mg of alpha-chymotrypsin with activity of 40-50 BTEE units per mg protein).

Specifications & Order Information

Source	Human Plasma shown to be nonreactive for HBsAg, anti-HCV, anti-HBc, and negative for anti-HIV-1/2
Form	Lyophilized from 5 ml containing 1 mg protein, 30 mM sodium phosphate buffer, 300 mM NaCl.
Solubility	Soluble in water. Unstable below pH 5.5
Inactivation	Inactivated by some non-serine proteinases and by oxidation of active site methionine residue.

Description	Size	Catalogue No.
Human Alpha-1-antitrypsin Proteinase Inhibitor	1 mg	0219134601

Human Serum

Human serum is the portion of blood with the cells and clotting factors removed. MP Biomedicals' human serum is derived from healthy donors who are tested negative for HBV, HIV-1/2, HCV, HTLV I/II and Syphilis, as required by FDA regulations. The blood was collected in FDA-licensed commercial donor establishments located in the US and processed in an FDA-registered facility located in the US, in compliance with ethical standards.

Application

Human pooled serum is used as a media component to neutralize cell free virus. It is used as a reagent in liposome binding assay and in preparation of sperm. While, Human Type AB Serum is used as a growth supplement for cell culture media and in other research applications. It has been proven to grow many human cell lines at a faster rate and with a smaller percentage of serum than mixed blood group serum.

Specifications & Order Information

Description	Size	Catalogue No.
Pooled Human Serum Liquid Protein: 5.5 - 7.5 g/dL	100 mL	092930149
	500 mL	092930154
Pooled Human Serum Liquid Protein: 5.5 - 7.5 g/dL	100 mL	092931149
Whole Human Serum Lyophilized Total Protein: 61.9 mg/ml	2 mL	0855979
Human Serum, Type AB Liquid (Heat Inactivated) HCV; HIV; HBsAG Free Protein: 5.5 - 7.5 g/dL	100 mL	092938249
Human Serum, Type AB from Male Donors Liquid Protein: 5.0 - 8.3 g/dL	100 mL	092930949
Human Serum, Type AB Liquid HCV; HIV; HbsAG Free Protein: 5.5 - 7.5 g/dL	100 mL	092931949

Purified Human Apolipoprotein A1

Apolipoproteins are soluble in aqueous solutions. However, due to their amphipathic structure, apolipoproteins self-associate into oligomers at high protein concentrations. At concentrations above 1 mg/ml, there may be little or no free monomer in the solution. Apolipoproteins exist as monomers in buffers containing 5M guanidine-HCl or 6M urea. Apolipoprotein A1, which has a molecular weight of 28 kD and a pI of 5.6, activates LCAT by catalyzing the esterification of cholesterol. This product consists of 0.5 mg human apolipoprotein A1 lyophilized from 0.01M ammonium bicarbonate.

Specifications & Order Information

Protein purity is at least 98% as determined by quantitative laser densitometry of SDS polyacrylamide gel. Protein is measured by the BCA - method using bovine serum albumin as the standard. This method was found to give comparable results to the Lowry Method.

Description	Size	Catalogue No.
Purified Human Apolipoprotein A1 Lipoproteins	500 µg	0859414

Human High Density Lipoprotein (HDL)

HDL is isolated from fresh human serum by sequential isopycnic ultracentrifugation at the lower and upper density limits of the specified density range. Density adjustments are performed with solid KBr. HDL is washed by centrifugation at the upper density limit to ensure removal of higher density proteins. HDL is filtered through a 0.45 µm filter and packaged aseptically.

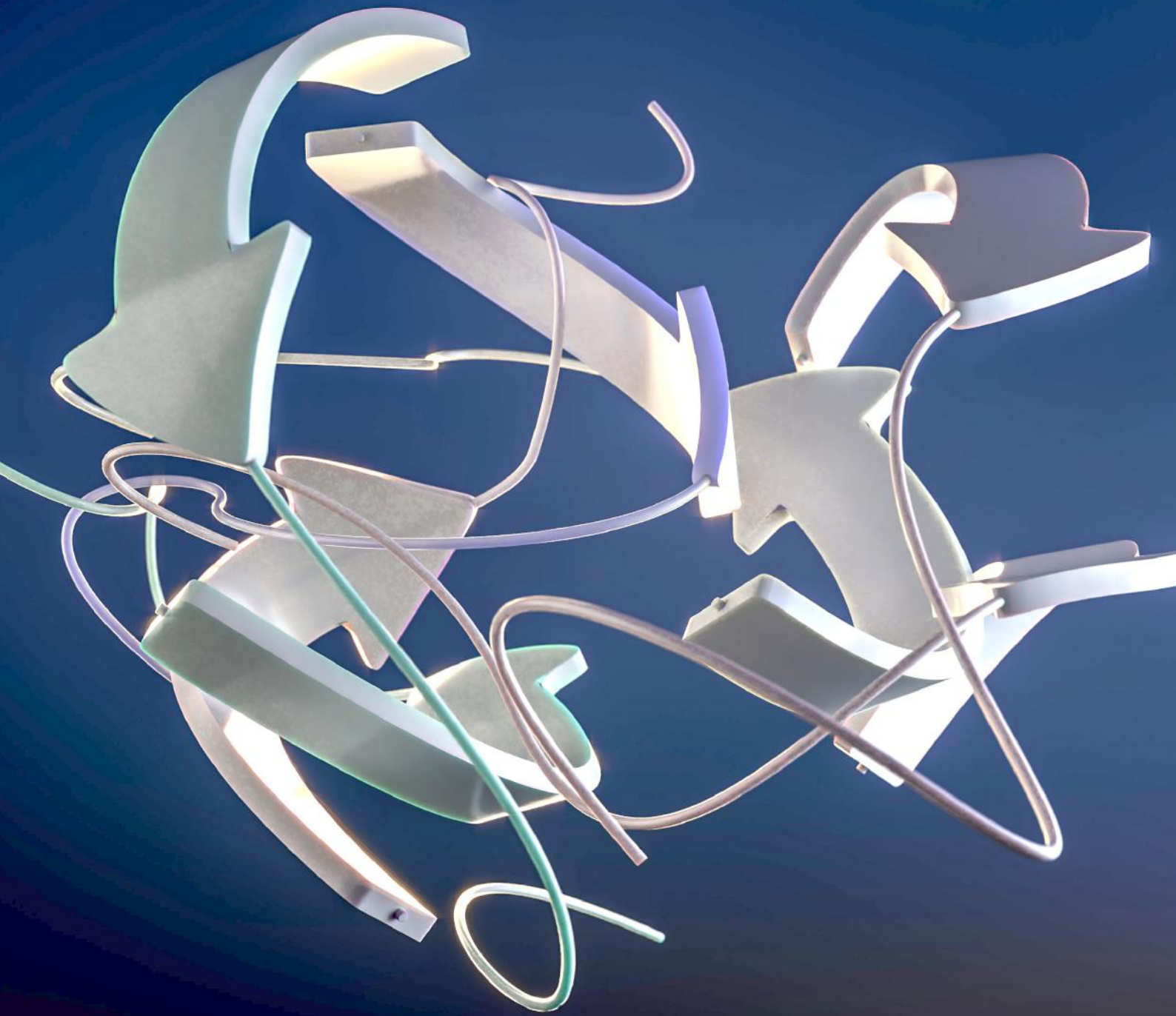
Application

HDL (High density lipoprotein) is used in cardiovascular research and the development of potential therapeutic approaches to cardiovascular risk management.

Specifications & Order Information

The identity and purity of each preparation is verified by cellulose acetate electrophoresis. The density range is 1.063 - 1.21 g/ml.

Description	Size	Catalogue No.
Human High Density Lipoprotein (HDL) Lipoproteins	10 mg	0859433



Growth Factors and Hormones

Epidermal Growth Factor, Human

EGF (Epidermal growth factor) is a neurotrophic factor that promotes the survival of various neuronal cell types and may play an important role in the injury response in the nervous system. Recombinant Human Epidermal Growth Factor produced in E.coli is a single, non-glycosylated polypeptide.

Application

Cell culture, cancer research

Order Information

Description	Size	Catalogue No.
Epidermal Growth Factor, Human	100 µg	08982201

Angiotensin II, Human

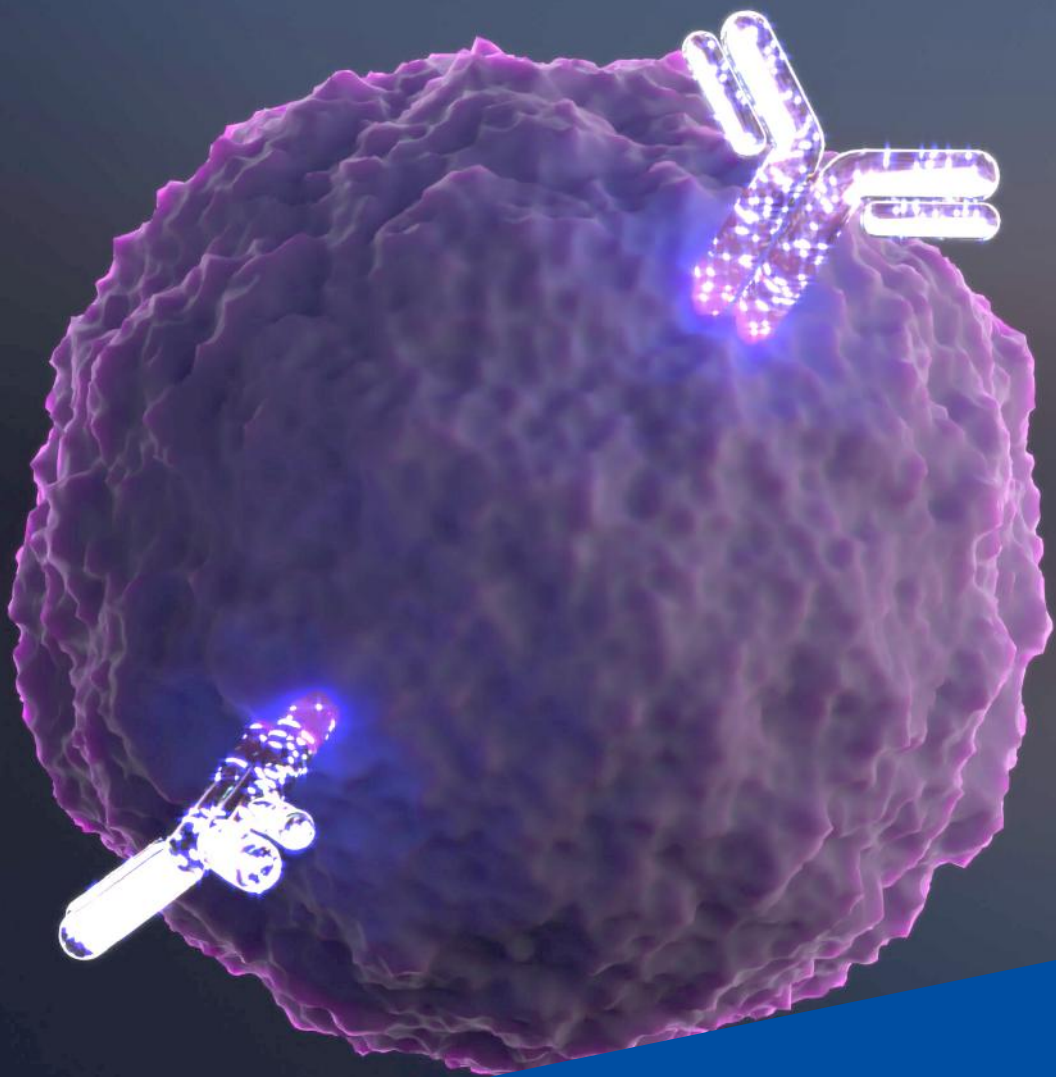
Angiotensin II plays an important role in the regulation of blood pressure. It stimulates the release of aldosterone from the adrenal gland.

Application

Blood pressure regulation, fluid balance, and cardiovascular homeostasis.

Specifications & Order Information

Description	Size	Catalogue No.
Human Angiotensin II Acetate Salt (Soluble in distilled water (0.9 mg/ml)) Molecular Weight: 1106.249 g/mol	1 mg	0219505101
	5 mg	0219505105
	10 mg	0219505110



Immunology

Human Gamma Globulin

Human γ -Globulin can be used as a stabilizer and/or blocker for EIA and RIA test Systems. Also, it is used in manufacturing of diagnostic reagents. Purified human γ -Globulin are recommended to be used as ELISA coating antigens and as controls. Fraction II is mostly used as an immunological challenge in studies of mechanisms of immunotolerance.

Application

Immunoassays, ELISA, RIA

Specifications & Order Information

Description	Size	Catalogue No.
Purified Human Gamma Globulin Lyophilized Unconjugated Total Protein: 17.0 mg/mL Volume: 6 mL	100 mg	0855838
Human Gamma Globulin, Fraction II Powder Protein: 97.0% (By Biuret)	1 g	08823101
	10 g	08823102

Purified Human IgM

Human IgM is purified from pooled human plasma using multi-step procedures which may include salt fractionation, gel filtration, ion-exchange chromatography and immunoabsorption.

Application

Human IgM is suitable for use as a positive control in antibody identification screening techniques and is recommended as an ELISA coating antigen and control.

Specifications & Order Information

Formulation Details: Dialyzed into 0.01M sodium phosphate, 0.07M sodium chloride, pH 7.3, filtered through a 0.22 μ m filter and vialled.

Description	Size	Catalogue No.
Purified Human IgM Human IgM and buffer salts	5 mg	0855916

IgE, Human, Myeloma

The product consists of purified IgE antibodies derived from human myeloma cells. It is supplied in Tris or phosphate buffered saline.

Application

It can be utilized for immunogen preparation, reference standardization, and structural or biological studies related to IgE function and allergic responses.

Specifications & Order Information

Formulation Details: Liquid in 15 mM potassium phosphate buffer, pH 7.4, with 0.15M NaCl

Description	Size	Catalogue No.
IgE, Human, Myeloma Concentration: 1.24 mg/mL	100 µg	08643491

Fluorescein-Conjugated Human Albumin

Human albumin and fluorescein-5-isothiocyanate (FITC) are conjugated under defined conditions to obtain the optimal F/P ratio. Conjugated protein is purified by gel filtration. The product is in 0.02M sodium phosphate, 0.14M sodium chloride, pH 7.3 filtered through a 0.22 µm filter, vialled and lyophilized.

Application:

FITC - conjugated human albumin is used in flow cytometry and Immunomicroscopy.

Specifications & Order Information

The product is tested for purity at a minimum of 20 mg/ml using immunoelectrophoresis. No trace of other serum proteins is detected. The total protein is measured using the Biuret procedure, with bovine albumin as the standard; F/P ratio is calculated using absorbance at 491.5nm. Each vial is overfilled by approximately 10 percent so that a minimum of 25 mg of FITC-conjugated human albumin is obtained upon reconstitution.

Description	Size	Catalogue No.
Fluorescein-conjugated Human Albumin	25 mg	0855883



Human IgG

IgG (Immunoglobulin G) is the most prevalent type of antibody found in the body. Human IgG is composed of two heavy chains (gamma) and two light chains. It is utilized in research focused on the immune system's defense against pathogens, produced through the secretion of B cells.

Application

Purified Human IgG is suitable for use as a positive control in antibody identification screening techniques and is recommended as an ELISA coating antigen and control. Purified IgG1/IgG2 from myeloma source, reactive specifically to its subclass by subclass-specific radial immunodiffusion and ELISA.

Specifications & Order Information

Description	Size	Catalogue No.
Purified Human IgG Lyophilized Purified from pooled human plasma using multi-step procedures which may include salt fractionation, gel filtration, ion-exchange chromatography and immunoabsorption. Purity: >98% 	50 mg	0855908
Purified Human IgG, Positive Control (No IgA, IgM) Lyophilized Purified from pooled human serum using multi-step procedures which may include salt fractionation, gel filtration, ion-exchange chromatography and immunoabsorption 	10 mg	0855836
Purified Human IgG Fc Lyophilized Prepared from human IgG by limited digestion with papain, and purified by ion-exchange, gel filtration or affinity chromatography. Purity: >99% 	10 mg	0855911
Purified Human IgG f(ab') ₂ Lyophilized Prepared from human IgG by limited digestion with pepsin and purified by gel filtration or affinity chromatography. 	10 mg	0855910
Purified Human IgG1, Myeloma Liquid Purified from human myeloma sera containing high levels of IgG1 Kappa protein. 	100 µg	08642311
	1 mg	08642312
Purified Human IgG2, Myeloma Liquid Purification starting with myeloma plasma followed with HPLC, Protein G column and gel filtration 	100 µg	08642321

Human C-Reactive Protein

C-Reactive Protein has been shown to be elevated in a wide variety of acute inflammatory conditions. These conditions include most bacterial and some viral infections, rheumatic fever, rheumatoid arthritis and many collagen diseases. It is a homogeneous acute phase protein, found in humans and most other animals. It is synthesized primarily in the liver hepatocytes. Discovered as a result of its precipitation with C-polysaccharide (CPS) in sera of patients with infections and inflammatory disease. Calcium is required for its interaction with CPS.

While the precise biological function of CRP has not been discovered, it is known that CRP mediates activities associated with preimmune nonspecific host resistance. It is opsonic, an initiator of the classical complement cascade and an activator of monocytes/macrophages. Cleavage of CRP by neutrophil-derived proteases leads to the production of peptides that have immunomodulating actions. CRP also binds to several nuclear components including chromatin, histones and snRNP, suggesting that it may play a role as a scavenger during cell necrosis. In addition, CRP binds, through the Ca^{++} -dependent PC-binding site, to many other body components including phospholipids, lecithin, sphingomyelin, a variety of monophosphate esters, low density lipoprotein, fibronectin and to the basement membrane protein laminin. CRP binding to polycations has also been demonstrated, but this binding does not appear to occur through the PC-binding site on CRP.

Application

C-Reactive Protein is used as an immunogen for antisera production and calibrator in the manufacturing of diagnostic kits for measuring serum CRP levels.

Specifications & Order Information

Form	Supplied in 20 mM Tris, 140-200 mM Sodium Chloride, 0.1% sodium azide, pH 7.5-8.0.	
Molecular Weight	Approximately 21,000 to 24,000 (single subunits). In serum and in the purified state, the subunits aggregate as cyclic pentamers having molecular weights of 110,000-144,000.	
Concentration	1.0-3.0 mg/ml	
Description		Catalogue No.
Human C-Reactive Protein	1 mg	0215231501
	5 mg	0215231505

Purified Human IgA

Human IgA is purified from pooled human serum or colostrum using multi-step procedures which may include salt fractionation, gel filtration, ion-exchange chromatography and immunoabsorption.

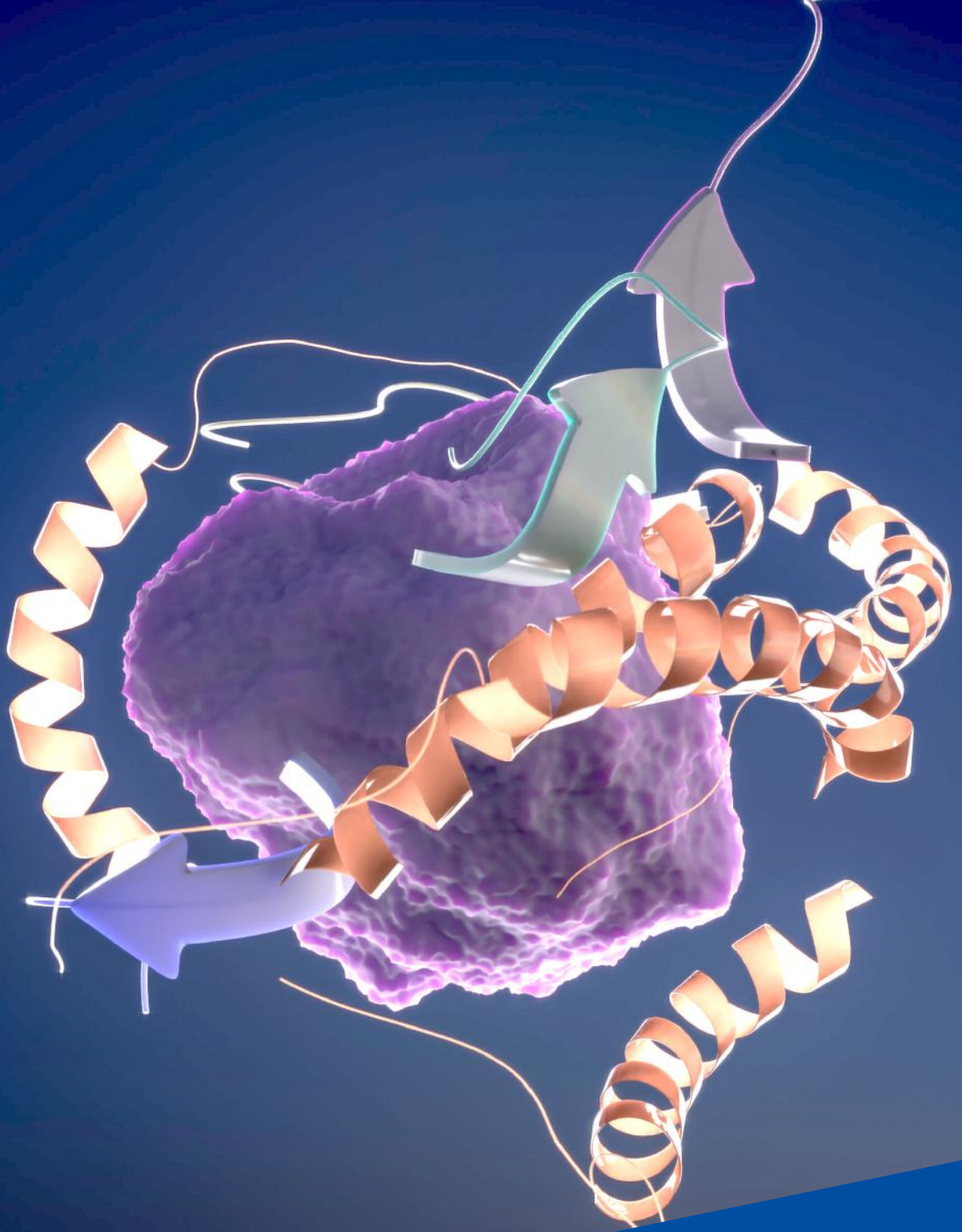
Application

Human IgA is suitable for use as a positive control in antibody identification screening techniques and is recommended as an ELISA coating antigen and control. Purified IgA secretory may be used as a reference antigen, standard, blocking agent or coating protein in a variety of immunoassays including ELISA, dot immunobinding, immunoblotting, immunodiffusion and immunoelectrophoresis. Other applications include starting materials for the preparation of immunogens and solid phase immunoadsorbents. IgA from human colostrum was used as a standard in ELISA (1 mg/mL) and gel electrophoresis.

Specifications & Order Information

Formulation Details: Dialyzed into 0.01M sodium phosphate, 0.07M sodium chloride, pH 7.3, filtered through a 0.22 µm filter, vialled and lyophilized.

Description		Size	Catalogue No.
Purified Human IgA lyophilized powder of human serum IgA and buffer salts		5 mg	0855906
Purified Human Secretory IgA lyophilized powder of human secretory IgA and buffer salts		5 mg	0855905



Enzymes and Proteins

Human Fibronectin

Purified Human Fibronectin is used as immunochemical standard and as a cell attachment and proliferation assays on human endothelial cells, human keratinocytes and human dermal fibroblasts.

Application

Human fibronectin (HFN) is suitable for use as an attachment factor in the propagation of cells in vitro; it is used to coat cell culture surfaces, including plasticware, glassware, and microcarrier beads..

Specifications & Order Information

Description	Size	Catalogue No.
Purified Human Fibronectin Liquid, purified from human plasma using multi-step procedures which may include gel filtration, ion-exchange chromatography and immunoabsorption.	1 mg	0855913
Fibronectin Solid, purified from Cohn fraction I of human plasma by a modification of the procedure. Purity: ≥95%	1 mg	0215112601

Human Dipeptidyl Peptidase IV

Dipeptidyl peptidase-4 plays an important role in tumor biology and is useful as a marker for various cancers. It appears to work as a suppressor in the development of cancer and tumors.

Application

Marker for cancer development

Specifications & Order Information

Description	Size	Catalogue No.
Human Dipeptidyl Peptidase IV Lyophilized solid, 13 U/mg per protein	10 MU	03SPE0210

Human Gastrin Releasing Peptide

Gastrin releasing peptide (GRP) is a neuropeptide that regulates gastrointestinal tract. This bombesin-like family gene is expressed in areas like stomach and brain. Research also shows that it plays a significant role in CNS.

Application

Multifunctional peptide in gastric function and neurotransmission

Order Information

Description	Size	Catalogue No.
Human Gastrin Releasing Peptide	500 UG	02180353.5

Chymotrypsin

Human α -chymotrypsin has been used in a study to assess the quantitative structure-activity relationships for organophosphates binding to trypsin and chymotrypsin. Human α -chymotrypsin has also been used in a study to investigate the direct detection of native proteins in biological matrices using extractive electrospray ionization mass spectrometry.

Application

Enzymatic function in protein digestion study

Specifications & Order Information

Description	Size	Catalogue No.
Chymotrypsin Salt Free Lyophilized Solid	100 μ g	0219133880

B-glucuronidase

Beta-glucuronidases are members of the glycosidase family of enzymes that catalyze breakdown of complex carbohydrates. Human β -glucuronidase is a type of glucuronidase that catalyzes hydrolysis of β -D-glucuronic acid residues from the non-reducing end of mucopolysaccharides such as heparan sulfate. In human gut, β -glucuronidase converts conjugated bilirubin to the unconjugated form for reabsorption.

Application

Catalyze breakdown of complex carbohydrates

Specifications & Order Information

Description	Size	Catalogue No.
B-glucuronidase Sulfatase Activity of ≤ 5000 u/mL; from <i>Helix pomatia</i>	1 mL	0215228401
	2 mL	0215228402
	5 mL	0215228405
	10 mL	0215228410
	50 mL	0215228450

Thyroglobulin

Clinically, Thyroglobulin is observed in blood to monitor thyroid cancer development typically after treatment. It serves as a glycoprotein produced by the thyroid gland and a precursor to the thyroid hormones. The hormone is responsible for cell development, growth and metabolism.

Application

Marker for thyroid function and cancer development

Specifications & Order Information

Description	Size	Catalogue No.
Thyroglobulin Lyophilized	5 mg	08648112



Recombinant Supplements

Recombinant Human Serum Albumin, 20% Solution (Purity≥99%, from Yeast)

Human Serum Albumin (HSA), synthesized by hepatocytes, stands as the predominant protein in human plasma. It acts as a vital transporter for essential nutrients like fatty acids and amino acids, while also playing a crucial role in regulating plasma pH and maintaining osmotic pressure.

Recombinant Human Serum Albumin (rHSA) is derived from yeast through genetic recombination technology. Being devoid of animal derived components, rHSA eliminates the risk of blood-borne viral infections and demonstrates exceptional batch stability.

Application

rHSA serves as a versatile substitute for serum-derived albumin and holds diverse applications within the field of biomedicine.

Specifications & Order Information

Format	Yellowish brown, Liquid		
Purity	> 99 %		
Molecular weight	66.5 kDa		
Endotoxin Level	≤ 0.5EU/mL		
Description		Size	Catalogue No.
Recombinant Human Serum Albumin 20% Solution Purity≥99%, from Yeast		5 mL	0898322
Recombinant Human Albumin Liquid 20% Solution Purity: >95%		100 mL	089833

Recombinant Human Serum Albumin (Purity≥99%, from Yeast)

Human Serum Albumin (HSA), synthesized by hepatocytes, stands as the predominant protein in human plasma. It acts as a vital transporter for essential nutrients like fatty acids and amino acids, while also playing a crucial role in regulating plasma pH and maintaining osmotic pressure.

Recombinant Human Serum Albumin (rHSA) is derived from yeast through genetic recombination technology. Being devoid of animal derived components, rHSA eliminates the risk of blood-borne viral infections and demonstrates exceptional batch stability.

Application

rHSA serves as a versatile substitute for serum-derived albumin and holds diverse applications within the field of biomedicine.

Specifications & Order Information

Format	Powder
Purity	> 99 %
Molecular weight	66.5 kDa
Endotoxin Level	≤ 0.5EU/mL

Description	Size	Catalogue No.
Recombinant Human Serum Albumin Purity≥99%, from Yeast	500 mg	08983181
	1 g	08983182
	5 g	08983183
	100 g	08983184
	500 g	08983185

Recombinant Human Transferrin, APO (Purity≥95%, from Yeast)

Transferrin (TF) is the primary iron-binding protein in plasma, essential for iron transport, metabolism, cell proliferation regulation, and immune system function. Additionally, it exhibits antioxidant and antimicrobial properties, making it invaluable in various cell culture applications. Transferrin is found in three forms: apo-transferrin (iron-free), holo-transferrin (binding two iron ions), and partially saturated forms. Recombinant transferrin is produced and purified from yeast using genetic recombination technology, ensuring it is devoid of animal-derived components and poses no risk of blood-borne viral infections. This guarantees high batch stability. The product available is apo-transferrin, ideal for iron-rich culture media.

Application

Recombinant Human Transferrin is used in research for iron metabolism, cellular physiology, and immune responses.

Specifications & Order Information

Storage Temperature	Store unopened product at 2-8°C. Store reconstituted material no longer than a few days at 2-8°C unless sodium azide is added. For long-term storage, aliquot and freeze at -20°C.
Format	powder
Purity	≥ 95 %
Molecular weight	~75.2 kDa
Endotoxin Level	< 0.5EU/mL

Description	Size	Catalogue No.
Recombinant Human Transferrin, APO Purity≥95%, From Yeast	100 mg	08983251
	500 mg	08983252
	1 g	08983253
	5 g	08983254
	10 g	08983255

Recombinant Human Transferrin, HOLO (Purity≥95%, from Yeast)

Transferrin (TF) is the primary iron-binding protein in plasma, essential for iron transport, metabolism, cell proliferation regulation, and immune system function. Additionally, it exhibits antioxidant and antimicrobial properties, making it invaluable in various cell culture applications. Transferrin is found in three forms: apo-transferrin (iron-free), holo-transferrin (binding two iron ions), and partially saturated forms. Recombinant transferrin is produced and purified from yeast using genetic recombination technology, ensuring it is devoid of animal-derived components and poses no risk of blood-borne viral infections. This guarantees high batch stability. The product available is apo-transferrin, ideal for iron-rich culture media.

Application

Recombinant Human Transferrin is used in research for iron metabolism, cellular physiology, and immune responses.

Specifications & Order Information

Format	Powder
Purity	≥ 95 %
Molecular weight	~75 kDa
Endotoxin Level	≤ 0.5EU/mL

Description	Size	Catalogue No.
Recombinant Human Transferrin, HOLO Purity≥95%, From Yeast	100 mg	08983261
	500 mg	08983262
	1 g	08983263
	5 g	08983264
	10 g	08983265

Recombinant Human Insulin

Insulin is the primary polypeptide hormone responsible for controlling the cellular uptake, utilization and storage of glucose, amino acids and fatty acids while inhibiting the breakdown of glycogen, protein and fat. It is produced by pancreatic beta cells. The precursor protein (preproinsulin) contains a 23-30 amino acid signal peptide attached to the amino terminal of proinsulin. Proinsulin is composed of the insulin B-chain followed by a connecting peptide (C-Peptide) and the A-chain. The signal peptide assists in translocating preproinsulin into the lumen of the endoplasmic reticulum, after which it is rapidly cleaved. Proinsulin is then transported to the Golgi complex where it is packaged into granules and converted to insulin. On secretion, equimolar amounts of insulin and C-peptide are released into the blood. The insulin receptor is a tyrosine kinase that phosphorylates 185 kDa insulin receptor substrate (IRS-1) found in most cell types. IRS-1 activates phosphatidylinositol 3 kinase (IP3 Kinase). The Kd for insulin at its receptor is approximately 0.5 nM (approximately 2.9 ng/ml).

Application:

Used in cell cultures at a concentration of 1 to 10 ug/ml. Methods for immobilizing insulin on polystyrene dishes have been reported for applications involving protein-free cell cultures.

Specifications & Order Information

Appearance	White to off-white powder
Activity	1 unit corresponds to the efficiency of 0.04167 mg international standard substance.
Zinc Content	Approximately 0.5%. If desired, the zinc can be removed by solubilizing the insulin in dilute acetic acid, adding excess EDTA to chelate the zinc, and then precipitating the insulin at its pI.
Isoelectric Point	pI - ~5.3 (for the native protein)
Sedimentation Coefficient ($D_{20,w}$)	1.95×10^{-13} (bovine and porcine)
E^{278} (278 nm)	6080 (33 mM phosphate, pH 7.0, bovine and porcine)
M^{278} (278 nm)	10.6 (33 mM phosphate, pH 10.6, bovine and porcine)
Solubility	Insulin is not soluble at neutral pH. It can be solubilized (1 - 10 mg/ml) in dilute acetic acid or dilute hydrochloric acid, pH 2-3.

Description	Size	Catalogue No.
Insulin, Human Recombinant For gene expression, transformation and cloning	10 mg	0219390010
	25 mg	0219390025
	100 mg	0219390080

Recombinant Human Stem Cell Factor

Stem Cell Factor (SCF) is a hematopoietic growth factor that exerts its activity at the early stages of hematopoiesis. SCF stimulates the proliferation of myeloid, erythroid, and lymphoid progenitors in bone marrow cultures and has been shown to act synergistically with colony stimulating factors. Human SCF is an 18.4 kDa protein containing 164 amino acid residues.

Specifications & Order Information

Appearance	White solid
Purity	Greater than 98% by SDS-PAGE and HPLC analyses. Endotoxin level is less than 0.1 ng per mg (1EU/ug) of SCF.
Reconstitution	The lyophilized SCF is soluble in water and most aqueous buffers.
Stability	The lyophilized SCF, though stable at room temperature, is best stored desiccated below 0°C. Reconstituted SCF should be stored in working aliquots at -20°C.
Biological Activity	Human SCF is fully biologically active when compared to standards. The ED ₅₀ as determined by the dose-dependent stimulation of the proliferation of human MO7e cells is < 20 ng/ml, corresponding to a specific activity of > 5 x 10 ⁴ units/mg.

Description	Size	Catalogue No.
Stem Cell Factor, Human, Recombinant Peptide growth factor/cytokine	2 µg	0215869802
	10 µg	0215869810

Recombinant Human Epidermal Growth Factor

Epidermal Growth Factor, Human, Recombinant is a recombinant analog of human epidermal growth factor (EGF) that provides a potent and cost-effective mitogen for cell culture applications. It is produced in a patented *E. coli* expression system free of animal-derived components.

Application

It is ideal for both research and large-scale culture systems utilizing serum-free or low-level serum applications. It is effective in a variety of fibroblast and endothelial cell types and produces extremely potent results in cell culture.

Specifications & Order Information

Appearance	White to off white powder
Molecular Weight	Human EGF is a 6.2 kDa protein containing 53 amino acid residues.
Purity	Greater than 98% by SDS-PAGE and HPLC analyses. Endotoxin level is less than 0.1 ng per mg (1EU/mg)
Reconstitution	The lyophilized EGF is soluble in water and most aqueous buffers.
Stability	The lyophilized EGF, though stable at room temperature, is best stored desiccated below -20°C. Reconstituted EGF should be stored in working aliquots at -20°C.
Biological Activity	Human EGF is fully biologically active when compared to standards. The ED ₅₀ as determined by the dose-dependent stimulation of thymidine uptake by BALB/c 3T3 cells is <0.1ng/ml, corresponding to a specific activity of >1 x 10 ⁷ units/mg.

Description	Size	Catalogue No.
Epidermal Growth Factor, Human, Recombinant	100 µg	0215457180

Recombinant Human R-Spondin-3

The R-Spondin (Rspo) proteins belong to the Rspo family of Wnt modulators. Currently, the family consists of four structurally related secreted ligands (Rspo 1-4), all containing furin-like and thrombospondin structural domains. The Rspo proteins can interact with the Frizzled/LRP6 receptor complex in a manner that causes the stabilization and resulting accumulation of the intracellular signaling protein, β -catenin. This activity effectively activates and increases the subsequent nuclear signaling of β -catenin. R-Spondin can also bind to the previously discovered G-protein coupled receptors, LGR-4 and LGR-5. Rspo/ β -catenin signaling can act as an inducer of the transformed phenotype, and can also regulate the proliferation and differentiation of certain stem cell populations. Recombinant human R-Spondin-3 is a 26.9 kDa protein consisting of 240 amino acid residues. Due to glycosylation, R-Spondin-3 migrates at an apparent molecular weight of approximately 37.0 kDa by SDS PAGE analysis under reducing conditions.

Specifications & Order Information

Appearance	White Lyophilized Solid
Purity	>95%
Endotoxin	< 1EU/ μ g
Source	CHO cells

Description	Size	Catalogue No.
R-Spondin-3, Human, Recombinant	20 U	08P987202

Recombinant Human Interleukin 2

Interleukin-2 plays a role in the activation and proliferation of NK cells, induces γ -interferon and B cell growth factor secretion, and modulates the expression of the IL-2 receptor.

Specifications & Order Information

Molecular Weight	17 kDa
Purity	>98% as determined by SDS-PAGE
Biological Activity	ED ₅₀ range=0.06-0.1131 ng/ml, determined by the dose dependent proliferation of mouse CTLL-2 cells
Endotoxin	<0.1 ng/mg
Reconstitution	Lyophilized hIL-2 should be reconstituted in 100 mM acetic acid to 0.1-1.0 mg/ml to regain full activity.

Description	Size	Catalogue No.
Interleukin 2, Human, Recombinant	10 KU	0215389610

Recombinant Human KGF (FGF-7)

Keratinocyte Growth Factor (KGF/FGF-7) is one of 23 known members of the FGF family. Proteins of this family play a central role during prenatal development and postnatal growth and regeneration of variety of tissues, by promoting cellular proliferation and differentiation. KGF/FGF-7 is a mitogen factor specific for epithelial cells and keratinocytes and signals through FGFR 2b. KGF/FGF-7 plays a role in kidney and lung development, angiogenesis, and wound healing. Recombinant human KGF/FGF-7 is an 18.9 kDa protein consisting of 163 amino acid residues.

Specifications & Order Information

Molecular Weight	17 kDa
Purity	>98% as determined by SDS-PAGE
Biological Activity	ED50 range=0.06-0.1131 ng/ml, determined by the dose dependent proliferation of mouse CTLL-2 cells
Endotoxin	<0.1 ng/mg

Description	Size	Catalogue No.
KGF (FGF-7), Human, Recombinant	10 U	08P985932

Recombinant Human Heregulinb-1

Neuregulin/Heregulin is a family of structurally related polypeptide growth factors derived from alternatively spliced genes (NRG1, NRG2, NRG3 and NRG4). To date, there are over 14 soluble and transmembrane proteins derived from the NRG1 gene. Proteolytic processing of the extracellular domain of the transmembrane NRG1 isoforms release soluble growth factors. Heregulin- β 1 (HRG1- β 1) contains an Ig domain and an EGF-like domain that is necessary for direct binding to receptor tyrosine kinases erb3 and erb4. This binding induces erb3 and erb4 heterodimerization with erb2, stimulating intrinsic kinase activity, which leads to tyrosine phosphorylation. Although HRG1- β 1 biological effects is still unclear, it has been found to promote motility and invasiveness of breast cancer cells which may also involve up-regulation of expression and function of the autocrine motility-promoting factor (AMF). Recombinant human Heregulin- β 1 (HRG1- β 1) is a 7.5 kDa polypeptide consisting of only the EGF domain of Heregulin- β 1 (65 amino acid residues).

Specifications & Order Information

Appearance	White Pellet or Solid
Purity	>95%
Endotoxin	< 1EU/ug
Source	E. coli

Description	Size	Catalogue No.
Heregulinb-1, Human, Recombinant	50 U	08P984872



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