G-BIOSCIENCES®

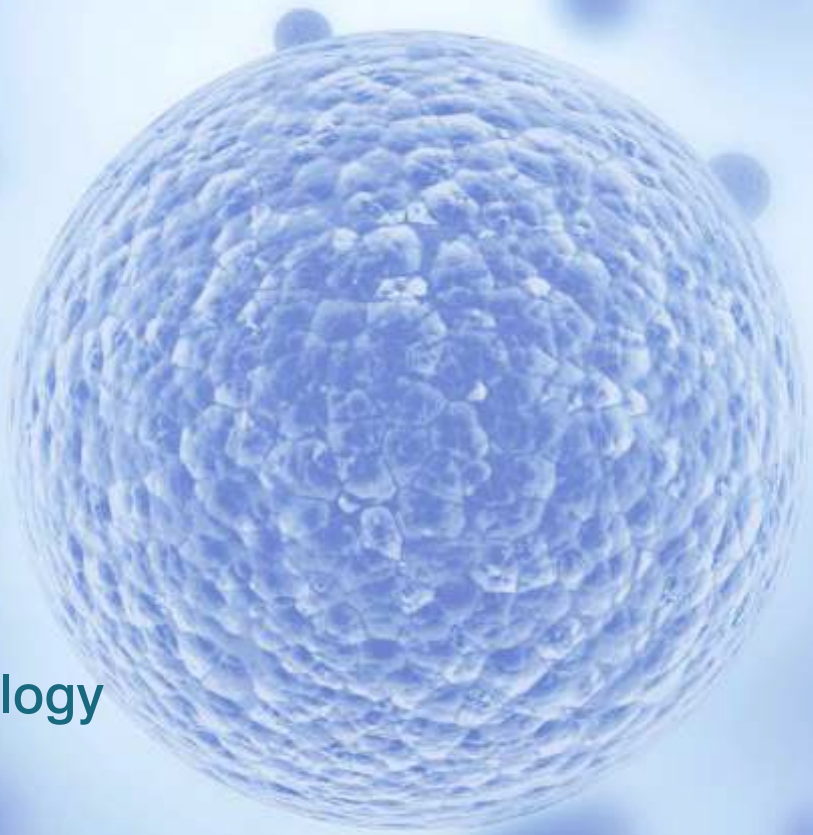
Mini Catalog - 2017

Proteomics

Immunology

Cell Biology

Molecular Biology



ELISA

Antibodies

Rec. Proteins

Substrates

Inhibitors

Reagents

Assays

Probes

Buffers

Resins

Kits

www.GBiosciences.com

G-Biosciences was founded in 1994 with a vision to simplify life science research; with a primary goal to target the key techniques for the protein research and find affordable methods to simplify & improve these techniques. G-Biosciences' team examined every aspect of particular experimental techniques, to identify the key areas that we could target for the improvement.

Over the years G-Biosciences has branched out into other areas of research, but our primary target still remains with proteins and our primary goal "simplify and improve on these techniques" still holds true. This message was reinforced in 2010 with the evolution of **"The Protein Man"**, our iconic mascot and the G-Biosciences brand.

During the course, we are willing to offer thousands of products and manufacture almost everything. We have incorporated a comprehensive range of products to meet the daily needs of life sciences research labs. Some of the products are being introduced under the brands **"ImmunoTag"**, "**BenchTop-LabSystems"** & "**Plasticles"**, to have focus and penetration on the individual product category.

This catalogue is a brief introduction for the key products. For the complete range of products, please refer to our price-list or inquire with us.

BIOSCIENCES®

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Cell Culture & Chromatography Media

Bioprocess is a chemical engineering process used in the pharmaceutical industries for the large scale production of biological products. The pharmaceutical and biomedical researchers use cellular therapy production platforms for the production of recombinant proteins, vaccines and monoclonal antibodies.

The cellular therapy manufacturing process is separated into upstream and downstream processes.

The upstream bioprocess refers to the first step in which cells or microbes are grown in bioreactors. The upstream processing involves all the steps related with media development, inoculum development & improvement and optimization of growth kinetics so that product development can improve tremendously. When the desired density (for batch and fed batch cultures) is achieved then cells are harvested and moved to the downstream section of the bioprocess.

The downstream bioprocess refers to the process to meet purity and quality requirements for final product. The downstream process involves separating the biomass (microbial cells), cell biomass disruption, concentration of broth, purification of metabolites, etc.

G-Biosciences offer serum-free culture media to express the mammalian, virus & insect cells for the upstream production process. These culture media can be used in batch as well in continuous infusion culture; and are available in two physical states; the dry powder media are supplied in bulk pack for the in-house preparation and the liquid culture media are fully prepared packed as 500ml liquids and they available for

- **Mammalian cell expression systems – CHO and HEK293**
- **Virus cell expression systems - MDCK and Vero**
- **Insect cell expression systems – Sf9 and Sf21**

G-Biosciences offer the chromatography media for the purification of proteins, polysaccharides, and other biomolecules. Our resins are designed for optimal selectivity, resolution and high dynamic binding capacity. Our high performance resins operate at higher pressures and flow rates than most other agarose resins due to optimized cross-linking technology.

- ✓ Designed to be scalable from lab to production
- ✓ Efficient separation due to the narrow particle size distribution
- ✓ High chemical stability for easy cleaning-in-place
- ✓ Reliable and reproducible results
- ✓ High throughput and purity

G-Sep™ are the high quality agarose base resins and they are available in small scale for laboratory optimization where the bulk packs are available for the wide bioprocess functional areas. They are available in variable particle size (1.7µm ~ 180µm) and the variable pore size (60Å ~ 1000Å) as well some of them are also available in non-porous form

- **G-Sep™ Silica Base Chromatography - None, C18, C8, C4, NH2, Phenyl, CN, Diol**
- **G-Sep™ Ion Exchange Chromatography - CM, DEAE, SP, Q**
- **G-Sep™ Hydrophobic Interaction Chromatography - Butyl, Phenyl**
- **G-Sep™ Metal-Chelate Affinity Chromatography – Ni, IDA**
- **G-Sep™ Carbohydrate Analysis Media – Polysaccharide**

*Contact us for the technical specification

Biosimilars Antibodies

Immunogenicity is the ability of an antigen (proteins or antibodies) to induce an immune response. In other words, immunogenicity is an immune response by an organism against a therapeutic antigen.

Immunogenicity can lead to development of **Anti-Drug Antibodies** (ADAs) as well as **Neutralizing Antibodies** (NAbs), which may induce unwanted side effects, especially in biotechnology-derived pharmaceuticals, such as therapeutic antibodies and growth factors. The therapeutic antibodies and the growth factor induce the biologic activity of the drugs against the pathogen to target the diseases including immune disorders, cancers, and infections.

We offer a wide range of validated therapeutic monoclonal antibodies for the biological drugs development process:

Product Description	Trade Name	CAS No.	Target	Cat. No.	Pack Size
Adalimumab	Humira	331731-18-1	TNF-α	TAB-001	5mg
Alemtuzumab	Campath	216503-57-0	CD52	TAB-002	5mg
Alirocumab	Praluent	1245916-14-6	PCSK9	TAB-003	5mg
Atezolizumab	Tecentriq	1537032-82-8	PDL-1	TAB-004	2mg
Avelumab	Bavencio	1380723-44-3	PDL-1	TAB-005	5mg
Bevacizumab	Avastin	216974-75-3	VEGF	TAB-006	5mg
Cetuximab	Erbitux	205923-56-4	EGFR	TAB-007	5mg
Denosumab	Prolia	615258-40-7	RANK Ligand	TAB-008	2mg
Etanercept	Enbrel	185243-69-9	TNF	TAB-009	5mg
Evolocumab	Repatha	1256937-27-5	PCSK9	TAB-010	2mg
Infliximab	Remicade	170277-31-3	TNF-α	TAB-011	5mg
Ipilimumab	Yervoy	477202-00-9	CTLA-4	TAB-012	2mg
Matuzumab	EMD 72000	339186-68-4	EGFR	TAB-013	5mg
Nivolumab	Opdivo	969414-94-4	PD-1	TAB-014	2mg
Obinutuzumab	Gazyva	949142-50-2	CD20	TAB-015	2mg
Ofatumumab	Arzerra	679818-59-8	CD20	TAB-016	5mg
Omalizumab	Xolair	242138-07-4	IgE	TAB-017	5mg
Panitumumab	Vectibix	339177-26-5	EGFR	TAB-018	5mg
Pembrolizumab	Keytruda	1374853-91-4	PD-1	TAB-019	5mg
Pertuzumab	Perjeta	380610-27-5	HER2	TAB-020	5mg
Ranibizumab	Lucentis	347396-82-1	VEGF	TAB-021	5mg
Rituximab	MabThera	174722-31-7	CD20	TAB-022	2mg
Tocilizumab	Actemra	375823-41-9	IL6 Receptor	TAB-023	2mg
Trastuzumab	Herceptin	180288-69-1	ErbB2	TAB-024	2mg

Biosimilars Antibodies Detection Assays

Biosimilars plays a pivotal role to develop alternative biological drug to target the diseases including immune disorders, cancers, and infections.

To develop biosimilars, the Pharmacokinetics (PK) is conducted to study the way the human body handles the drug by absorption, distribution, metabolism and excretion.

Immunogenicity is an immune response by an organism against a biological drug. Therefore, immunogenicity leads to the development of Anti-Drug Antibodies (ADA). ADA may cause neutralization of the molecule, affecting PD and PK, making the treatment ineffective.

We offer a range of ELISA kits to detect the therapeutic antibodies during the bioprocess:

Product Description	Cat. No.	Pack Size
Pharmacokinetic Assay Kits		
Adalimumab (Humira) PK ELISA Kit	IT-PKE-01	96 well plate
Bevacizumab (Avastin) PK ELISA Kit	IT-PKE-02	96 well plate
Filgrastim (G-CSF) PK ELISA Kit	IT-PKE-03	96 well plate
Infliximab (Remicade) PK ELISA Kit	IT-PKE-04	96 well plate
Glargine (Lantus) PK ELISA Kit	IT-PKE-05	96 well plate
Ranibizumab (Lucentis) PK ELISA Kit	IT-PKE-06	96 well plate
Rituximab (Mabthera) PK ELISA Kit	IT-PKE-07	96 well plate
Teriparatide (PTH 1-34) PK ELISA Kit	IT-PKE-08	96 well plate
Trastuzumab (Herceptin) PK ELISA Kit	IT-PKE-09	96 well plate
Immunogenicity Assay Kits		
Adalimumab (Humira) ADA ELISA Kit	IT-ADA-01	96 well plate
Bevacizumab (Avastin) ADA ELISA Kit	IT-ADA-02	96 well plate
Etanercept (Enbrel) ADA ELISA Kit	IT-ADA-03	96 well plate
Filgrastim (G-CSF) ADA ELISA Kit	IT-ADA-04	96 well plate
Ranibizumab (Lucentis) ADA ELISA Kit	IT-ADA-05	96 well plate
Rituximab (Mabthera) ADA ELISA Kit	IT-ADA-06	96 well plate
Teriparatide (PTH 1-34) ADA ELISA Kit	IT-ADA-07	96 well plate
Trastuzumab (Herceptin) ADA ELISA Kit	IT-ADA-08	96 well plate

Biosimilar Residual Detection Assays

Host Cell Protein ELISA

Host cells are used as expression systems in biopharmaceutical products contain hundreds to thousands of host cell proteins (HCP). It is crucial to efficiently remove these contaminants from biological drugs, as the high concentrations of HCP affect the safety and efficacy of the drug.

The HCP Assays are high sensitive detection based on “sandwich” ELISA to detect the presence of host cell protein in the therapeutic product development. The assays are designed specifically for the gene expression system to detect and quantify HCP concentrations at any point of purification process.

Protein-A Residual ELISA

This ELISA kit is designed to detect native and recombinant Protein A from Staphylococcus Aureus (SpA), in samples such as antibody preparations. Many immunoglobulin bind Protein A non-specifically via the Fc region. The ELISA kit utilizes IgG from chicken, also known as IgY, which is one of the few immunoglobulin that does not bind Protein A in the Fc region. The kit is validated to detect the MabSelect SuRe™ ligand from GE Healthcare

- Superior accuracy: Boiling procedure gives recoveries close to 100%
- High sensitivity: Sensitivity is 0.15ng/mL even at IgG concentrations up to 1mg/mL
- Broad application range: Dynamic range is at least 3 logs and the kit can be used for samples with or without IgG
- Cost effective and flexible: 96 well plate in a 8 x 12 strip format

MYCOPLASMA EZ-SCAN

The kit detects mycoplasma contamination with bisbenzimide (Hoechst 33258). The dye binds to the AT-rich region of the DNA and can be spotted because of the high AT content (55% to 80%) in mycoplasma DNA. Mycoplasma contaminated cells stained around the cells can see many uniform size fluorescent dots, that is mycoplasma DNA stain, indicating mycoplasma contamination. The maximum excitation wavelength of Hoechst 33258 is 346 nm and the maximum emission wavelength is 460 nm. After Hoechst 33258 and double-stranded DNA are bound, the maximum excitation wavelength is 352 nm and the maximum emission wavelength is 461 nm.

Product Description	Cat. No.	Pack Size
CHO HCP ELISA Kit	HCP-E01	96 wells
E.coli HCP ELISA Kit	HCP-E02	96 wells
Protein-A Residual ELISA Kit	IT-RE-01	96 wells
Human IgG ELISA Kit	IT-RE-02	96 wells
Human IgM ELISA Kit	IT-RE-03	96 wells
Human Serum Albumin ELISA Kit	IT-RE-04	96 wells
Bovine Serum Albumin ELISA Kit	IT-RE-05	96 wells
MycoPlasma Ez-Scan	SBA1080A SBA1080B	100 rxns 200 rxns

Cell Health Assays & Reagents

Cell health assays are essential process prior to any cell-based study of cultured cells for screening different parameters leading to cell viability, proliferation, cytotoxicity and cell death (apoptosis or necrosis). Cell health assays are vital for screening various drugs to study cellular changes that lead to pathological conditions such as cancer, autoimmune diseases and neuro degeneration; to identify the factors that affect specific biological processes such as stem cell differentiation, immune cell activation etc.

Product Description	Cat. No.	Pack Size
Cell Proliferation & Cytotoxicity Assays		
AlamarBlue Cell Viability Assay (1ml = 100 Assays)	786-921 786-922	10ml 25ml
CytoScan™ CCK8 Proliferation & Cytotoxicity Assay	786-1069	500 Assays
CytoScan™ LDH Cytotoxicity Assay (Colorimetric)	786-210	1000 Assays
CytoScan™ LDH Cytotoxicity Assay (Fluorometric)	786-211	500 Assays
CytoScan™ SRB Proliferation & Cytotoxicity Assay	786-213	1000 Assays
CytoScan™ WST-1 Proliferation & Cytotoxicity Assay	786-212	500 Assays
Mitochondria Membrane Protein Assays		
MitoScan™ JC-1 Mitochondria Membrane Protein Assay	786-1322	100 Assays
MitoScan™ JC-10 Mitochondria Membrane Protein Assay	786-1324	100 Assays
MitoScan™ TMRM Mitochondria Membrane Protein Assay	786-1313	100 Assays
Annexin V Apoptosis Assays		
Annexin V-Alexa Fluor488 / PI Apoptosis Assay	786-1363	100 Assays
Annexin V-Alexa Fluor647 / PI Apoptosis Assay	786-1366	100 Assays
Annexin V-FITC / PI Apoptosis Assay	786-1369	100 Assays
Cell Reactive Oxygen Species Detection Assay		
ROS Detection Assay	786-1370	100 Assays

Lipo2000™ Transfection Reagent

A unique formulation of multiple polycations and liposomes that enable highly efficient transfection. Transfects for over 15 different cell lines, including difficult-to-transfect, suspension, and primary cells.

Endotoxin Free Water

Free from endotoxins and enzymes, including proteases. Certified tested by the Limulus amebocyte lysate (LAL) test for endotoxins and determined to be <0.0050EU/ml.

EndotoxinOUT™

For the cleanup of buffers, cell culture media, protein solutions and pharmacological components.

Product Description	Cat. No.	Pack Size
Lipo2000™ Transfection Reagent	786-1374 786-1375	0.75 ml 1.5 ml
Water, Endotoxin Free	786-670 786-671	500ml 1 Ltr.
EndotoxinOUT™	786-367 786-368	10 ml 1 Ltr.

Cell Stains & Fluorescent Probes

Product Description	Cat. No.	Pack Size
Nuclear staining		
DAPI	RC111	10 ml
	RC1064	10 mg
Hoechest 33258	R123	10 ml
	RC1104	25 mg
Hoechest 33342	R126	10 ml
	RC1105	25 mg
Propedium Iodide	R154	10 ml
	RC1175	10 mg
Cytoplasmic Staining		
Calcein, AM	RC1241	1 mg
FDA [Fluorescein diacetate]	RC1242	1 g
CFDA	RC1243	100 mg
CFDA, SE	RC1244	25 mg
CDCFDA	RC1245	100 mg
CDCFDA, SE	RC1246	25 mg
Cell Membrane Staining		
DiD	RC1247	10 mg
DiI	RC1248	10 mg
DiR	RC1249	10 mg
Fluorescent Reagents		
5-FAM	RC1250	1 g
5-TAMRA	RC1251	100 mg
Alexa Fluor 488	RC1252	5 mg
Alexa Fluor 555	RC1253	5 mg
Alexa Fluor 647	RC1254	5 mg
Alexa Fluor 680	RC1255	5 mg
Alexa Fluor 750	RC1256	5 mg
Cy3	RC1257	5 mg
Cy5	RC1258	5 mg
Cy5.5	RC1259	5 mg
Cy7	RC1260	5 mg
Fluo-3 AM	RC1261	100 µg
Mitochondrial Membrane Potential Fluorescence Probes		
JC-1	RC1263	5 mg
JC-10	RC1264	5 mg
Rhodamine 123	RC1265	5 mg
TMRE	RC1266	25 mg
TMRM	RC1267	25 mg
Cell membrane Potential Fluorescence Probes		
DiBAC4(5)	RC1268	25 mg
DiBAC4(3)	RC1269	25 mg
DiSBAC2(5)	RC1270	25 mg
DiSBAC2(3)	RC1271	25 mg

Well-Coated™ Plates

We offer pre-quoted, ready-to-use plates to bind antigens. The plates are for single antibody assays. The wells are coated to a 100µl depth and are supplied as clear, white and black plates for colorimetric, chemiluminescence and fluorescent detection systems respectively. The plates are available as single 96-well plates or as 12 x 8-well strips in a 96-well holder.

Product Description		Cat. No.	Pack Size
Well-Coated™ Antibody Binding Plates			
Protein A	Clear	786-731	5 Plates
	Black	786-770	5 Plates
	White	786-771	5 Plates
Protein A/G	Clear	786-735	5 Plates
	Black	786-772	5 Plates
	White	786-773	5 Plates
Protein G	Clear	786-733	5 Plates
	Black	786-774	5 Plates
	White	786-775	5 Plates
Protein L	Clear	786-737	5 Plates
	Black	786-776	5 Plates
	White	786-777	5 Plates
Goat α-Mouse	Clear	786-739	5 Plates
	Black	786-758	5 Plates
	White	786-759	5 Plates
Goat α-Rabbit	Clear	786-741	5 Plates
	Black	786-760	5 Plates
	White	786-761	5 Plates
Well-Coated™ Biotin Binding Plates			
Biotin	Clear	786-747	5 Plates
	Black	786-762	5 Plates
	White	786-763	5 Plates
Neutravidin	Clear	786-743	5 Plates
	Black	786-766	5 Plates
	White	786-767	5 Plates
Streptavidin	Clear	786-745	5 Plates
	Black	786-778	5 Plates
	White	786-779	5 Plates
Well-Coated™ Protein Binding Plates			
Amine Binding	Clear	786-753	5 Plates
	Black	786-756	5 Plates
	White	786-757	5 Plates
Nickel	Clear	786-749	5 Plates
	Black	786-768	5 Plates
	White	786-769	5 Plates
Glutathione	Clear	786-751	5 Plates
	Black	786-764	5 Plates
	White	786-765	5 Plates
Sulfhydryl Binding	Clear	786-755	5 Plates
	Black	786-780	5 Plates
	White	786-781	5 Plates

Conjugates Substrates, Probes & Buffers

Product Description	Cat. No.	Pack Size
Enzyme Conjugates		
FITC	ITEC-01	1 g
HRP	ITEC-02	10 mg
ELISA Chromogenic Substrates		
TMB [20x] (Single Component)	ITES-01A	10 ml
	ITES-01B	100 ml
Ultra TMB [20x] (Single Component)	ITES-02A	10 ml
	ITES-02B	100 ml
ELISA Chemiluminescent Substrates		
femtoELISA™ HRP (substrate only)	786-111	1000 Assay
femtoELISA™-HRP Kit	786-110	1000 Assay
femtoELISA™-AP (substrate only)	786-113	1000 Assay
femtoELISA™-AP Kit	786-112	1000 Assay
Buffers		
Assay Diluent - PBS [1x]	ITED-1	100 ml
Assay Diluent - TBS [1x]	ITED-2	100 ml
Bicarbonate Buffer [1M]	ITBB-1	500ml
Blocking Buffer - PBS	ITBB-1	100 ml
Blocking Buffer - TBS	ITBB-2	100 ml
PBS [10X]	R027	1 Liter
	R028	1 Gallon
PBS [20X]	ITEB-1	500 ml
PBS with Tween-20 [20X]	ITEB-1T	500 ml
Stop Solution [1N]	ITSS-1	500 ml
TBS [10X]	R029	1 Liter
	R030	1 Gallon
TBS [20X]	ITEB-2	500 ml
TBS with Tween-20 [20X]	ITEB-2T	500 ml

Affinity Chromatography Proteins & Antibodies

Protein Purification is a method to separate & purify the interest of protein from the mixture of molecules, based on highly specific interaction between antigen & antibody, enzyme & substrate, or receptor & ligand. Among various protein purification methods, affinity chromatography is absolutely the vital and efficient method; since it can offer high selectivity, high resolution, and high capacity for target proteins. The products are immobilized with cross-linked Agarose Martix and available in resin as well in ready-to-use columns & 96 plate formats (inquire). Our large selection of products for the affinity chromatography to separate & purify the affinity tagged proteins & antibodies.

Our Pearl™ IgG Resin is a unique & proprietary resin; it allows the one-step purification of the IgG antibodies from serum. Pearl™ IgG Resin is more rapid and efficient than the commonly used Protein A or G resins. The resin binds the high abundant, non-IgG proteins (i.e albumin) and allows the IgG molecules to pass through in a physiological buffer. The purified IgG molecules can be stored or used in further downstream applications without further clean-up, such as ammonium sulfate precipitation. The Pearl™ Antibody Clean Up Kit removes BSA & Gelatin protein stabilizers that interfere with antibody labeling, fragmentation and isotyping experiments.

Product Description	Cat. No.	Pack Size
Antibody Purification		
Protein A Resin	786-283	5ml
	786-824	25ml
Protein A/G Resin	786-836	3ml
	786-837	15ml
Protein G Resin	786-829	2ml
	786-284	5ml
Protein L Resin	786-1073	2ml
	786-1074	10ml
Thiophilic Resin	786-267	10ml
Pearl™ IgG Resin	786-800	3ml
	786-801	25ml
Pearl™ Antibody Clean Up Kit	786-803	10 rxn
Avidin-Streptavidin Tagged Protein		
Biotin Resin	786-598	5ml
Iminobiotin Resin	786-599	5ml
Biotin-Tagged Protein		
Avidin Resin	786-593	5ml
	786-594	25ml
Monomeric Avidin Resin	786-595	5ml
	786-596	10ml
Streptavidin Resin	786-390	5ml
	786-591	10ml
Calmodulin Binding Protein		
Calmodulin Resin	786-282	10ml
	786-1305	50ml

Product Description	Cat. No.	Pack Size
C-Reactive Protein		
Immobilized p-Aminophenyl Phosphoryl Choline	786-821	1ml
Immobilized O-Phosphorylethanoamine	786-1310	5ml
His-Tagged Protein		
Cobalt Chelating Resin	786-286	10ml
	786-402	100ml
	786-403	500ml
Co-NTA Resin	786-932	10ml
	786-933	100ml
	786-934	500ml
Copper Chelating Resin	786-285	10ml
Nickel Chelating Resin	786-281	10ml
	786-407	100ml
	786-408	500ml
Ni-NTA Resin	786-939	10ml
	786-940	100ml
	786-941	500ml
Zinc Chelating Resin	786-287	10ml
GST-Tagged Protein		
Glutathione Resin	786-280	10ml
	786-310	25ml
	786-311	100ml
	786-312	500ml
Maltose Binding Protein		
Dextrin Resin	786-1075	10ml
	786-1076	25ml
	786-1077	100ml

Affinity Chromatography Functional Groups

The separation and purification of proteins has been a major challenge; therefore, the affinity chromatography has enabled to purify the large quantities of highly pure proteins for a multitude of analysis techniques. The beaded agarose forms the matrix of coupling affinity resins and effectively immobilizes biologically active molecules. The selection of the ligand for affinity coupling chromatography is influenced by two factors: the ligand must exhibit specific and reversible binding affinity for the target molecule and it must have chemically modifiable groups that allow it to be attached to the matrix without destroying binding activity.

G-Biosciences offers array of agarose-based resins with a variety of coupling chemistries for the reliable immobilization with the chosen functional group included

- Active Hydrogen Reactive
- Amine Reactive
- Carbohydrate Reactive
- Carboxyl Reactive
- Glycoproteins
- Protease
- Sulfhydryl Reactive

Product Description	Cat. No.	Pack Size
Active Hydrogen Reactive		
SDC™ Immobilization Kit	786-271	5rxn
Amine Reactive		
CDI Amine Reactive Agarose	786-404	10ml
CNBr-Activated Agarose	786-1219	5g
Epoxy-Activated Agarose	786-1221	5G
HOOK™ Activated Agarose	786-066	10ml
NHS-Activated Agarose	786-689	25ml
Sodium Cyanoborohydride	786-061	0.5gm
Carbohydrate Reactive		
Con A Agarose	786-216	5ml
Carbohydrate Resin	786-808	10ml
Immobilized Jacalin	786-167	5ml
Carboxyl Reactive		
Carboxyl Resin	786-797	25ml
ECH-Agarose	786-1223	15ml
Glycoproteins		
Immobilized D-Galactose	786-391	5ml
N-Acetyl-D-Galactosamine	786-261	5ml
N-Acetyl-D-Glucosamine	786-270	5ml
Protease		
Immobilized Pepstatin	786-789	5ml
Sulfhydryl Reactive		
Sulfhydryl Coupling Resin	786-794	10ml

FastPure™ Spin Columns (Mini and Midi)

The FastPure™ Spin Columns are designed for easy and efficient small scale protein purification. These versatile spin columns are made of biocompatible polypropylene and are compatible with all chromatography resins. They incorporate a specialized membrane that retains the sample and resin in the column and prevents leakage. When the column is centrifuged (Mini: 12-14,000 x g, Midi: 750 x g) the pores of the membrane dilate (0.1-0.2µm) and allow the sample to be purified and collected for subsequent downstream analyses. The 600µl (Mini) & 20ml (Midi) spin columns conveniently fit in to common centrifuge tubes for easy washing and collection (Mini: 2 ml centrifuge tubes, Midi: 50 ml centrifuge tubes).

Product Description	Cat. No.	Pack Size
FastPure™ Mini spin Columns (600µl)	786-1088 786-1089 786-1090	10 columns 50 columns 100 columns
FastPure™ Mini spin Columns (20ml)	786-1091	8 columns

Ion Exchange Chromatography

Ion Exchange Chromatographyis a processthat separates biomolecules (ions & polar molecules), including proteins and nucleotides on the basis of their charge.

Our G-Sep™ Ion Exchange Fast FlowResins have charged functional groups that bind molecules with an opposite charge. Bound molecules are eluted from the medium by displacement, via the application of an increasing concentration of a similarly charged molecule.The G-Trap™ ready-to-use pre-packed columns are packed with Ion Exchange Fast FlowResins.

Product	DEAE Agarose Fast Flow	Q Agarose Fast Flow	CM Agarose Fast Flow	SP Agarose Fast Flow
Ligand	Diethylaminoethyl	Quaternary ammonium	Carboxymethyl	Sulphopropyl
Ion Class	Weak Anion	Strong Anion	Weak Aation	Strong Cation
Functional Group	$-N+(C_2H_5)_2$	$-N+(CH_3)_3$	$-SO_3^-$	$-COO^-$
Ionic Capacity	0.11-0.16mmol (H^+)/ml	0.18-0.25mmol (Cl^-)/ml	0.09-0.13mmol (H^+)/ml	0.18-0.25mmol (Na^+)/ml
Binding Capacity	90mg HSA/ml resin	120mg HSA/ml resin	70mg lysozyme/ml resin	
pH Range	2–9	2–12	4–12	2–12
Bead Size	Ø 50-160 µm			
Flow Velocity	450 cm/h			
Max. Pressure	0.3 MPa			
-Exclusion limit	4×10^6			

Product	Description	Cat. No.	Pack Size
G-Sep™ DEAE Agarose FF	Resin	786-967 786-968	25ml 500ml
G-Trap™ DEAE Agarose FF	1ml Column 5ml Column	786-1012 786-1013	5 5
G-Sep™ Q Agarose FF	Resin	786-969 786-970	25ml 300ml
G-Trap™ Q Agarose FF	1ml Column 5ml Column	786-1014 786-1015	5 5
G-Sep™ CM Agarose FF	Resin	786-965 786-966	25ml 500ml
G-Trap™ CM Agarose FF	1ml Column 5ml Column	786-1010 786-1011	5 5
G-Sep™ SP Agarose FF	Resin	786-971 786-972	25ml 300ml
G-Trap™ SP Agarose FF	1ml Column 5ml Column	786-1016 786-1017	5 5

Hydrophobic Interaction Chromatography

Hydrophobic interaction chromatography (HIC) is a versatile method for the purification and separation of biomolecules based on the surface hydrophobicity. HIC can be used as a first purification step, as an intermediate step, or as the final polishing step to remove remaining impurities.

G-Biosiences offer a complete range for Hydrophobic interaction chromatography resins and columns

Product	Butyl Agarose Fast Flow	Octyl Agarose Fast Flow	Phenyl Agarose FF (High Sub)	Phenyl Agarose FF (Low Sub)
Matrix	High cross-linked 6% agarose			
Bead Size	Ø 50-160 µm			
Ligand	Butyl	Octyl	Phenyl	
Ligand Concentration	About 40µmol/ml	About 5µmol/ml	About 40µmol/ml	About 25µmol/ml
Binding Capacity	20mg HSA/ml resin	30mg HSA/ml resin	20mg HSA/ml resin	
pH Range	3–13			
Flow Velocity	450 cm/h			
Max. Pressure	0.3 MPa			
Exclusion limit	4×10^6			

Product	Description	Cat. No.	Pack Size
G-Sep™ Butyl Agarose FF	Resin	786-957 786-958	25ml 200ml
G-Trap™ Butyl Agarose FF	1ml Column 5ml Column	786-1001 786-1002	5 5
G-Sep™ Octyl Agarose FF	Resin	786-963 786-964	25ml 200ml
G-Trap™ Octyl Agarose FF	1ml Column 5ml Column	786-1003 786-1004	5 5
G-Sep™ Phenyl Agarose FF (High Sub)	Resin	786-959 786-960	25ml 200ml
G-Trap™ Phenyl Agarose FF (High Sub)	1ml Column 5ml Column	786-1005 786-1006	5 5
G-Sep™ Phenyl Agarose FF (Low Sub)	Resin	786-961 786-962	25ml 200ml
G-Trap™ Phenyl Agarose FF (Low Sub)	1ml Column 5ml Column	786-1007 786-1008	5 5

Size Exclusion Chromatography
(Gel Filtration)

Size exclusion chromatography (SEC) or gel filtration is used to separate a wide range of molecules according to size, including proteins (enzymes), polysaccharides and nucleic acids.

G-Biosciences offers gel filtration matrix formed from agarose beads that are available with 4% or 6% agarose & 4% or 6% cross-linked agarose content.

Our Agarose 6 Fast Flow (FF) matrix is based on modified cross-linked 6% agarose. The modification to the cross-linked 6% agarose to fast flow results in improved physical stability and chromatographic qualities; and makes the resin an ideal base resin for high throughput applications and industrial process separations. The improved rigidity permits higher flow rates resulting in improved resolution in minimum time

Product	Agarose 4B	Agarose CL-4B	Agarose 6B	Agarose CL-6B	Agarose 6 FF
Matrix	Agarose 4%	CL-Agarose 4%	Agarose 6%	Cross-Linked Agarose 6%	
Bead Size	Ø 50-160 µm				
pH Range	4-9	3–13	4-9	2-14	3–13
Flow Velocity	11 cm/h	26 cm/h	14 cm/h	30 cm/h	450 cm/h
Max. Pressure	0.008 MPa	0.12 MPa	0.02 MPa	0.02 MPa	0.3 MPa
Exclusion limit	6×10^4 - 2×10^7		1×10^4 - 4×10^6		

Product Description	Cat. No.	Pack Size
G-Sep™ Agarose 4B	786-952	1 Ltr.
G-Sep™ Agarose CL-4B	786-953	1 Ltr.
G-Sep™ Agarose 6B	786-955	1 Ltr.
G-Sep™ Agarose CL-6B	786-956	1 Ltr.
G-Sep™ Agarose 6 Fast Flow	786-954	1 Ltr.

We also offer pre-packed ready-to-use **Desalting Columns** for separation of low molecular weight substances from high molecular weight substances based on size exclusion chromatography. Our G-Trap™ Desalting Columns are mostly used for removal of salt or buffer exchange before or after different chromatographic steps. They can also be used for separation of proteins based on their sizes.

Desalting Column	Bead Size	Volume	Cat. No.	Pack Size
G-Trap™ GT-600	20-130µm	1ml	786-1023	5
		5ml	786-1024	5
G-Trap™ GT-100	55-165µm	1ml	786-1025	5
		5ml	786-1026	5
G-Trap™ GT-1200	35-165µm	1ml	786-1027	5
		5ml	786-1028	5

Immunoprecipitation

Immunoprecipitation (IP) is one of the most useful immunochemical technicto determine the presence and quantity of an antigen, molecular weight of a polypeptide, rate of synthesis or degradation, identify certain post translational modifications and interactions with other proteins, nucleic acids and ligands. IPs consists of four main steps:

- Labeling of the antigen
- Release of antigen by cell lysis
- Formation of antibody-antigen complexes
- Purification of the immune complexes

G-Biosciences offer complete kits for effective Immunoprecipitation while using <10µg antibody. Each kit is suitable for 50 reactions using 10µl sample.

Classic Immunoprecipitation kit

- Rapid immunoprecipitation
- Mild elution conditions
- Suitable for most common immunoglobulins
- Supplied with Immobilized Protein A/G resin, spin columns and buffers

Co-Immunoprecipitation kit

- Compatible with any species or subclass of antibody, including chicken IgY
- Not restricted to antibodies, can be used for any protein
- Minimal antibody contamination
- Supplied with Amine Reactive HOOK™ Activated Agarose to covalently couple the antibody

Cross-Linking Immunoprecipitation kit

- Eliminate Antibody Co-elution
- Antibody is covalently coupled to the immobilized Protein A/G
- Supplied with Classical Immunoprecipitation kitand the homobifunctional cross-linker

Direct Immunoprecipitation kit

- Compatible with any species or subclass of antibody, including chicken IgY
- Not restricted to antibodies, can be used for any protein
- Minimal antibody contamination

Product Description	Cat. No.	Pack Size
Classical Immunoprecipitation	786-637	50rxn
Co-Immunoprecipitation	786-638	50rxn
Cross-Link Immunopreciptiation	786-639	50rxn
Direct Immunoprecipitation	786-636	50rxn

FPLC Columns

FPLC Columns are empty columns designed for fast protein liquid chromatography. Simply pack the empty FPLC column with desired resin to separate or purify target molecule.
G-Biosciences empty low pressure chromatography columns are made of polypropylene which is chemically resistant to most of the commonly used reagents for the chromatography. The end adaptors supplied with the column contain 10-32 UNF connections which are compatible with all commonly used chromatography instruments.

- Simple packing procedure
- Universal 10.32 UNF threads
- Compatible with HPLC and FPLC
- 10.32 packing connector (1pc) sold separately

FPLC Column	1ml	5ml	10ml	20ml
Dimensions (mm)	33 x 6.2	52 x 11	104 x 11	100 x 16
Max. Pressure	5bar (70psi)	3bar (42psi)		
Housing	PP	Acrylic		
pH Stability	2-14			
Flow Rate	0.5 - 2ml/min			
End Adaptor	Polypropylene: 10.32 UNF female threads (1/16”)			
Stop Plug	10.32 UNF male threads (1/16”)			

Product Description	Volume	Cat. No.	Pack Size
G-Trap™ FliQ FPLC Column (Low Pressure)	1ml	786-1292	1
	5ml	786-1293	1
	10ml	786-1294	1
	20ml	786-1295	1
10.32 Packing Connector	-	786-1295	1
G-Trap™ FPLC Column Max Pressure: 3bar (42psi)	1ml	786-1290	1
	5ml	786-1291	1

Protein Quantitation Assays

Protein assays, most notably quantitation or estimation assays, for determining protein concentration are one of the most widely used methods in life science research. Protein estimation of protein concentration is necessary in protein purification, electrophoresis, cell biology, molecular biology, and other research applications.

G-Biosciences offers a unique selection of protein estimation assays that are improvements on the Biuret, Lowry, BCA and Bradford assays. Each assay has its own benefits; however the NI™ (Non-Interfering™) Protein Assay and CB X™ Protein Assay overcome all interfering agents. Although there are a wide variety of protein assays available, none of the assays can be used without first considering their suitability for the application. Each method has its own advantages and limitations and often it is necessary to obtain more than one type of protein assay for research applications.

CB™ Protein Assay

An improved Coomassie Dye based on Bradford Protein assay; sensitive

CB-X™ Protein Assay

Highly sensitive, single reagent based advanced Bradford assay can be performed in 5 minutes

NI™ Protein Assay

A Highly-Sensitive, colorimetric advanced Lawry based protein assay

Protein *dotMETRIC*™

1µl Assay For Rapid Protein Estimation; takes 8-10 minutes and can assay as little as 2ng BSA

Protn-Latex™

Simple & Reliable estimation of protein contamination in latex

RED 660™ Protein Assay

A single reagent, ready-to-use colorimetric assay

SPN™ Protein Assay

An Ultra-Sensitive Spin Format for Rapid Protein Estimation

Product Description	Cat. No.	Pack Size
BCA Assay	786-570 786-571	500 Assays 1000 Assays
BCA Assay (Micro)	786-572	500 Assays
BCA Assay (Micro) with Non-Animal Protein Standard	786-895	500 Assays
BCA Assay (Reducing Agent)	786-573	250 Assays
BCA Assay (Reducing Agent) with Non-Animal Protein Standard	786-892 786-890	250 Assays 500 Assays
CB™ Protein Assay with Albumin Standard	786-012	500 Assays
CB™ Protein Assay with Non-Animal Protein Standard	786-893	500 Assays
CB-X™ Protein Assay withBSA Standard	786-12X	500 Assays
CB-X™ Protein Assay w/o BSA Standard	786-11X	500 Assays

Product Description	Cat. No.	Pack Size
CB-X™ Protein Assay with Non-Animal Protein Standard	786-894	500 Assays
NI™ Protein Assay with Albumin Standard	786-005	500 Assays
NI™ Protein Assay with Non Animal Protein Standard	786-896	500 Assays
Protein dotMETRIC™	786-20	>300 Assays
Protn-Latex™	786-20LATEX	50 Assays
RED 660™ Protein Assay	786-676	500 Assays
RED 660™ Protein Assay with Non-Animal Protein Standard	786-899	500 Assays
SPN™ Protein Assay	786-020	50 Assays
SPN™-htp Protein Assay	786-021	5 x 96
SPN™-htp Protein Assay with Non Animal Protein Standard	786-900	5 x 96

Protein Extraction & Lysis

G-Biosciences offer a wide variety of products for protein extraction and lysis. Our protein extraction and lysis buffer systems (PE LB™) ensure good protein recovery, while maintaining the biological activity of the proteins. The PE LB™ systems offer a wide selection of buffers for lysis and extraction of proteins from bacteria, yeast, mammalian cell cultures and tissues.

Our lysis buffers and kits also include RIPA lysis buffer& IBS™ (Inclusion Body Solubilization) Buffer for the extraction of total proteins from cells and tissues; and an RBC lysis buffer specifically designed for the lysis of red blood cells.

The 2D-Xtract™ is ready-to-use solubilization buffer for 2D analysis and the FOCUS™ Proteome Kits are suitable for the analysis of total proteins using 2D electrophoresis and are compatible with biological samples from tissues, cells, plants, yeast, bacteria, insects and biological samples. They are simple to use, save time, improve the quality of protein analysis and enhance the chances of discovery of novel proteins.

Product Description	Cat. No.	Pack Size
TPE™ (Total Protein Extraction)	786-225	50 Preps
RIPA Lysis & Extraction Buffer	786-490	500ml
	786-723	1L
	786-746	1 Gallon
RBC Lysis Buffer	786-650	250ml
	786-672	500ml
	786-849	1Ltr.
PE LB™ for Bacteria	786-185	100ml
	786-186	250ml
	786-177	500ml
PE LB™ for Bacteria [2x]	786-189	250ml
PE LB™ for Bacteria in PBS	786-191	500ml
PE LB™ for Insect	786-411	250ml
PE LB™ for Mammalian Cell	786-180	500ml
PE LB™ for Tissue	786-181	500ml
PE LB™ for Yeast	786-179	500ml

Product Description	Cat. No.	Pack Size
2D-Xtract™	786-501	50ml
FOCUS™ Extraction Buffer-I	786-220	For 50ml
FOCUS™ Extraction Buffer-II	786-221	For 50ml
FOCUS™ Extraction Buffer-III	786-222	For 50ml
FOCUS™ Extraction Buffer-IV	786-223	For 50ml
FOCUS™ Extraction Buffer-V	786-219	For 50ml
FOCUS™ Extraction Buffer-VI	786-233	For 50ml
FOCUS™ Bacterial Proteome	786-258	50 Preps
FOCUS™ Insect Proteome	786-360	50 Preps
FOCUS™ Mammalian Proteome	786-246	50 Preps
FOCUS™ Plant Proteome	786-259	25 Preps
FOCUS™ Yeast Proteome	786-257	50 Preps
IBS™ Buffer	786-183	100ml
CTAB Extraction Solution	786-565	125ml

Protein Detection & Analysis

G-Biosciences offers a wide selection of Chemiluminescence, Chromogenic and Antibody based detection systems for Western blotting, ELISA, Dot Blot and Arrays. A variety of reagents, buffers, kits and systems are available to ensure high sensitivity protein detection with minimal interference and background. In addition to numerous blocking, washing and detection reagents, we offer a number of unique products to save time and money, including Western ReProbe™ for stripping and re-probing Western blots.

Product Description	Cat. No.	Pack Size
Detection Substrate		
femtoLUCENT™ PLUS-AP Kit	786-10AP	100ml
femtoLUCENT™ PLUS-HRP Kit	786-10	100ml
femtoLUCENT™ PLUS-HRP (reagent only)	786-003 786-056 786-081	100ml 200ml 500ml
femtoCHROMO™-AP	786-379 786-380	For 4,000cm2
femtoCHROMO™-HRP	786-384 786-385	For 4,000cm2
Western-Blot Reagents & Buffers		
Western ReProbe™ [5x] Stripping & Re-probing Buffers	786-119 786-305 786-306 786-818	100ml 500ml 1 Liter 1 Gallon
Western ReProbe PLUS Stripping & Re-probing Buffers	786-307 786-308 786-309	500ml 1 Liter 1 Gallon
SWIFT™ Western Blotting	786-158	8 Blots
SWIFT™ Western Diluent	786-679	125ml
SWIFT™ Membrane Stain™	786-677	20 Blots
Efficient™ Western Transfer Buffer [20x]	786-019 786-019G	1 Liter 1 Gallon
High Molecular Weight Transfer Buffer [5x]	786-423	1 Liter
femto PBST™ [10X]	786-162	250ml
femto TBST™ [10X]	786-161	250ml

Product Description		Cat. No.	Pack Size
Blocking Buffers			
Blocking Buffers	PBS	786-946P	4 x 125ml
	TBS	786-946	4 x 125ml
NAP-BLOCKER™ [2X] Non-Animal Blocking Buffer	-	786-190	2 x 500ml
	PBS	786-190P	2 x 500ml
	TBS	786-190T	2 x 500ml
Protein-Free Blocking Buffer	PBS	786-664	500ml
	PBST	786-665	500ml
	TBS	786-662	500ml
	TBST	786-663	500ml
FISH-Blocker	PBS	786-675	500ml
	TBS	786-674	500ml
BLOT-QuickBlocker™ Modified Milk Protein		786-011	175g
BLOK™ BLOTTO Modified Milk Protein		786-192	2 x 500ml
BLOK™ BSA [10X]	PBS	786-195	125ml
	TBS	786-193	125ml
BLOK™ Casein [1%]	PBS	786-194	2 x 500ml
	TBS	786-196	2 x 500ml
FirstChoice™ Blocking Buffer Biotin free & Non-Animal Serum free	PBS	786-668	500ml
	PBST	786-669	500ml
	TBS	786-666	500ml
	TBST	786-667	500ml
Superior™ Blocking Buffer Biotin free & Non-Animal Serum free	PBS	786-660	500ml
	PBST	786-661	500ml
	TBS	786-658	500ml
	TBST	786-659	500ml
Superior™ Blocking Buffer (Dry)	PBS	786-601	5 Packs
	TBS	786-657	5 Packs
Superior™ Blocking Buffer	PBS	786-656	500ml
	TBS	786-655	500ml

Protein Fractionation & Enrichment

The analysis of a proteome is often inhibited by the vast amount of proteins, with large abundant proteins inhibiting the signal of lower abundance and often more interesting proteins. To overcome this problem by using fractionation, however inconsistencies in techniques and buffers often result in a lack of reproducibility.

G-Biosciences offers a wide selection of fractionation kits for processing samples from cells, tissues, bacteria, yeast, plants, and other biological samples.

The FOCUS™ line of products allow for the fractionation of a large selection of biological samples into a multitude of different fractions and these resulting fractions are compatible with 2D electrophoresis and subsequent protein identification techniques.

The AlbuminOUT™ has been specifically developed for substantial removal of albumin from such samples that contain a large abundance of albumin, such as plasma and cerebrospinal fluid.

FOCUS™ Cytoplasmic & Nuclear Proteins

A complete kit supplied with a strong chaotropic extraction buffer to solubilize both cytoplasmic and nuclear proteins

FOCUS™ Global Fractionation

The kit is designed to fractionate complex biological samples into cytosolic and membrane fractions

FOCUS™ Glycoproteins

A complete kit to isolates glycoproteins from complex biological solutions using spin columns (contain lectin bound resin

FOCUS™ Membrane Proteins

A rapid and highly reproducible method for preparation of membrane or hydrophobic proteins from biological samples

FOCUS™ Mitochondria

A complete kit for fractionation of the cytoplasm of cultured mammalian cells into an enriched fraction of mitochondria

FOCUS™ *Phosphorich*™

The kit contains ready-to-use spin columns that have a binding resin to bind *phosphorylated proteins & phosphopeptides*

FOCUS™ Signal Proteins

The kit is designed to efficiently extract & remove soluble proteins, leaving lipid rafts containing signal proteins

FOCUS™ Soluble & Insoluble Proteins

A complete kit for the selective preparation of soluble (hydrophilic) and insoluble (hydrophobic) proteins

FOCUS™ Sub Cell

Fractionates Mammalian cells & tissues samples into enriched mitochondrial, nuclear & cytosolic soluble & membrane protein

Fraction FOCUS™

A complete kit to fractionate and concentrate all proteomes into multiple fractions; simplifying 2D maps and enhancing detection of low abundant proteins

HOOK™ Cell Surface Protein Isolation

A complete kit for the conveniently label the cell surface proteins and isolate them for further analysis

Nuclear & Cytoplasmic Extraction Kit

The kit is based on proprietary combination of buffers for the enrichment of cytoplasmic and nuclear proteins

AlbuminOUT™

A rapid spin column format for the removal of albumin

Product Description	Cat. No.	Pack Size
FOCUS™ Cytoplasmic & Nuclear Proteins	786-248	50 Preps
FOCUS™ Global Fractionation	786-018	50 Preps
FOCUS™ Glycoprotein	786-253	10 Preps
FOCUS™ Membrane	786-249	50 Preps
FOCUS™ Membrane	786-249	50 Preps
FOCUS™ Mitochondria	786-022	50 Preps
FOCUS™ PhosphoRich™	786-255	5 Preps
FOCUS™ Signal Protein	786-250	50 Preps
FOCUS™ Soluble & Insoluble Protein	786-247	50 Preps
FOCUS™ SubCell	786-260	50 Preps
Fraction-FOCUS™	786-168	10 Preps
HOOK™ Cell Surface Protein Isolation	786-316	5rxn
Nuclear & Cytoplasmic Extraction	786-182	300 preps
AlbuminOUT™	786-251 786-252	25 Preps 50 Preps

Protein Sample Preparation
Dialysis & Concentrate

Sample preparation is a key procedure in sample analysis. Frequently, the component of interest is present in levels too low for detection or the presence of interfering matrix elements can mask the analysis of the component of interest. Sample preparation can concentrate the component to adequate levels for measurement and remove excess contaminants to yield clean, informative samples. We offer variety of products for the sample preparation.

Dialysis is a popular technique used for the exchange of buffer medium across semi-permeable membranes. Dialysis devices are available in many configurations for research applications. We offer Tube-O-DIALYZER™, an innovative dialysis devices and accessories for processing small samples. Tube-O-Array™ is available for the dialysis of up to 12 samples at one time.

Many research applications require concentration of dilute protein solutions. Protein solutions may be concentrated by precipitation, chromatographic capture and elution, or by lyophilization. G-Biosciences offers a selection of protein concentration systems suitable for concentrating proteins for running gels, raising antibodies, protein purification, protein assays and other applications. Proteins concentrated with these kits are suitable for the majority of downstream applications. For removing contaminants such as detergents, salts, dyes, and radioisotopes we offer a selection of contamination removal systems.

Tube-O-DIALYZER™

Efficient Dialysis with 100% sample recovery

Tube-O-Reactor™

For protein cross-linking & modification reactions

Product Description		Cat. No.	Pack Size
Tube-O-DIALYZER™ [1kDa]	20-250µl	786-610	20
	0.2-2.5ml	786-615	20
	(Mixed)	786-620	20
Tube-O-DIALYZER™ [4kDa]	20-250µl	786-611	20
	0.2-2.5ml	786-616	20
	(Mixed)	786-621	20
Tube-O-DIALYZER™ [8kDa]	20-250µl	786-612	20
	0.2-2.5ml	786-617	20
	(Mixed)	786-622	20
Tube-O-DIALYZER™ [15kDa]	20-250µl	786-613	20
	0.2-2.5ml	786-618	20
	(Mixed)	786-623	20
Tube-O-DIALYZER™ [50kDa]	20-250µl	786-614	20
	0.2-2.5ml	786-619	20
	(Mixed)	786-624	20
Tube-O-Reactor™ [4kDa]	20-250µl	786-024-4K	5
	0.2-2.5ml	786-027-4K	5
Tube-O-Reactor™ [8kDa]	20-250µl	786-024-8K	5
	0.2-2.5ml	786-027-8K	5
Tube-O-Reactor™ [15kDa]	(Micro)	786-024-15K	5
	(Medi)	786-027-15K	5
Tube-O-Array™		786-145A	1

UPPA™-I & II

A universal protein precipitation agent for the 100% recovery

UPPA-PROTEIN Concentrate™

A proprietary reagent for rapid precipitation & concentration with 100% recovery

Column-PROTEIN-Concentrate™

Spin Column for concentration of diluted protein solution for the 100% recovery

OrgoSol-PROTEIN-Concentrate™

Precipitates fragile & enzyme proteins without loss of activity with the 100% recovery

Tube-O-CONCENTRATOR™

For the rapid concentration of dilute protein solutions with 100% sample recovery

Concentrator Powder & Solution

Novel polymer for the rapid concentration of proteins by dialysis with 100% recovery

Product Description		Cat. No.	Pack Size
UPPA™-I & II		786-122	For >80ml
UPPA-PROTEIN-Concentrate™	20-250µl	786-120	For 10ml
	0.2-2.5ml	786-121	For 30ml
Column-PROTEIN-Concentrate™		786-126	For 4mg
OrgoSol-PROTEIN-Concentrate™		786-125	For 5ml
Tube-O-CONCENTRATOR™	20-250µl	786-625	5
	0.2-2.5ml	786-626	5
Concentrator Solution		786-143	125ml
Concentrator Powder		786-144	150gm

Protein Sample Preparation
Detergents & Salts Removal

Detergent-OUT™

A simple and high performance method for removing a wide variety of detergents, such as Triton, NP-40, Tween-20, CTAB, CHAPS, Lubrol and deoxycholate from protein solutions. Detergent-OUT™ removes detergents without significant loss of proteins, dilution of the protein solution, or change to the buffer composition of the protein solution.

Product Description	Cat. No.	Pack Size
DetergentOUT™ GB-S10	786-159	10ml Resin
DetergentOUT™ GB-S10-125	786-154	10 Columns
DetergentOUT™ GB-S10-800	786-155	10 Columns
DetergentOUT™ GB-S10-3000	786-156	10 Columns
DetergentOUT™ GB-S10-5000	786-157	10 Columns
DetergentOUT™ GB-S10 Spin	786-998	2 Plates

DetergentOUT™ Tween®

Removes polysorbate detergents without significant loss of proteins, dilution of the protein solution, or change to the buffer composition of the protein solution.

Product Description	Cat. No.	Pack Size
DetergentOUT™ Tween®, Micro	786-214	10 Columns
DetergentOUT™ Tween®, Medi	786-215	10 Columns

C18Spin Column

Ready-to-use C18 spin columns for clean-up & concentration. Each column process 10-150µl samples in about 30 minutes; can bind between 10ng to 30µg of protein/peptides

Product Description	Cat. No.	Pack Size
C18 Spin Columns	786-930 786-931	25 Columns 50 Columns

OrgoSol Detergent-OUT™

The kit has been specifically developed for removing all types of detergent from protein solution. OrgoSol DetergentOUT™ can be used for removing ionic, non-ionic and cationic detergents and also suitable for removing detergents from hydrophobic proteins. The kit includes our ready-to-use disposable desalting columns and Spin-OUT™ Columns for removing contamination from protein and nucleic acid samples.

Product Description	Cat. No.	Pack Size
OrgoSol DetergentOUT™ (Micro)	786-127	For 10ml Sample
OrgoSol DetergentOUT™ (Medi)	786-128	For 30ml Sample

SpinOUT™ Desalting Column

For the desalting & buffer exchange of protein/peptide. Ideal for separating proteins from peptides.

Product Description		Cat. No.	Pack Size
SpinOUT™ GT-100 Spin Columns [>700Da]	0.1ml	786-865	25
	1ml	786-866	10
	3ml	786-867	10
	5ml	786-868	5
	10ml	786-869	5
SpinOUT™ GT-600 Spin Columns [>6kDa]	0.1ml	786-703	25
	1ml	786-170	10
	3ml	786-171	10
	5ml	786-704	5
	10ml	786-705	5
SpinOut™ GT-600 Spin Plate		786-989	2
		786-990	4
SpinOUT™ GT-1200 Spin Columns [>30kDa]	0.1ml	786-706	25
	1ml	786-172	10
	3ml	786-173	10
	5ml	786-707	5
	10ml	786-708	5
SpinOut™ GT-1200 Spin Plate		786-989	2
		786-990	4

Protease Assay & Inhibitors

G-Biosciences offer a selection of Protease Assays and screening systems detection of proteases. We have protease activity assays such as our Protease Screening Kit and Protease Assay Kit. To identify destructive proteases, we offer ProteSEEKER™. We also offer Fluoro™ Protease Assay, a fluorometric, quantitative protease assay. Both resorufin and FITC Casein protease substrates are also available.

Our Protease Inhibitor Systems include a large variety of mass spectrometry, sequencing grade and general proteases are offered including Proteinase K, a high activity, non-specific serine protease, our partially purified Trypsin for general use and mass spectrometry grade MSG-Trypsin™.

A range of protease inhibitor cocktails and individual inhibitors can be found in our protease inhibitor section. ProteaseArrest™ has been proven to inhibit >95% of protease enzyme activity making it 80% more effective than tablet cocktail formats. Superior enzyme inhibition can also be achieved using our dry format inhibitor cocktail, ProteCEASE™.

Protease Assay Kit

Determination of protease activity in biological samples, with Nano gram detection levels

Fluoro™ Protease Assay Kit

Quantitative fluorescence protease assay

ProteSEEKER™

Identifies destructive proteases

Protease Screening Kit

Screening samples for protease activity

Product Description	Cat. No.	Pack Size
Protease Assay	786-028	50 Assays
Fluoro™ Protease Assay	786-320	1000 Assays
Protease Screening	786-137	50 Assays
ProteSEEKER™	786-325	50 Assays

Protease Assay Substrate

Product Description	Cat. No.	Pack Size
FITC-Casein	786-322	1mg
Resorufin-Casein	786-321	5mg

Protease Inhibitor Set

Contains 12 ready-to-use individual protease inhibitors Supplied in a ready-to-use solution at a 100X concentration The 1x concentration is designed to give >90% inhibition Each set contains the following protease inhibitors

- AEBSF
- ALLN
- Antipain
- Aprotinin
- Bestatin
- Chymostatin
- E-64
- EDTA-Na_2
- Leupeptin
- Pepstatin
- Phosphoramidon
- PMSF

Product Description	Cat. No.	Pack Size
Protease Inhibitor Set	786-207	12 x 25µl

ProteaseArrest™

A broad range protease inhibitor cocktail with wide species specificity, Outperforms Tablet Cocktails

ProteCEASE™

A dry format version of our ProteaseArrest™ for large scale preparative applications

Product Description	Cat. No.	Pack Size
ProteaseArrest™	786-108	2ml
	786-437	5ml
	786-711	10ml
Protease-Phosphatase Arrest™	786-450	1ml
Bacteria ProteaseArrest™	786-330	1ml
	786-432	5ml
Mammalian ProteaseArrest™	786-331	1ml
	786-433	5ml
Plant ProteaseArrest™	786-332	1ml
	786-434	5ml
Yeast/ Fungal ProteaseArrest™	786-333	1ml
	786-435	5ml
RecomProteaseArrest™	786-376	1ml
	786-436	5ml
TCM Protease Arrest™	786-238	1ml
	786-239	2ml
OneQuant™ ProteaseArrest™	786-329	24 x 100µl
FOCUS™ ProteaseArrest™	786-108F	1ml
ProteCEASE™-50, EDTA free	786-326	10 Vials
	786-327	20 Vials
ProteCEASE™-50, plus EDTA	786-334	10 Vials
	786-335	20 Vials
ProteCEASE™-100, EDTA free	786-328	10 Vials
	786-336	10 Vials

Protein & Enzyme Activity Assays

Product Description	Cat No.
α-Amylase	ITAK1023
α-Galactosidase	ITAK1098
α-Glucosidase	ITAK1096
β-1,3-Glucanase	ITAK1028
β-Amylase	ITAK1024
β-Galactosidase	ITAK1099
β-Glucosidase	ITAK1097
β-xylosidase	ITAK1092
Acetylcholinesterase	ITAK1068
Acid Invertase	ITAK1026
Acid Phosphatase	ITAK1001
Acidic Protease	ITAK1077
Acidic Xylanase	ITAK1090
Alanine Transaminase	ITAK1002
Alcohol Dehydrogenase	ITAK1084
Aldehyde Dehydrogenase	ITAK1040
Alkaline Phosphatase	ITAK1003
Alkaline Protease	ITAK1079
Aminopyrine N-Demethylase	ITAK1031
Aniline 4-Hydroxylase	ITAK1032
Ascorbate Oxidase	ITAK1051
Ascorbate Peroxidase	ITAK1052
Ascorbic Acid	ITAK1048
Aspartate Transaminase	ITAK1004
Basic Xylanase	ITAK1091
Ca2+/Mg2+ ATPase	ITAK1020
Catalase	ITAK1061
Cellulase	ITAK1095
Ceruloplasmin	ITAK1059
Chitinase	ITAK1088
Chymotrypsin	ITAK1082
Citrate	ITAK1069
Creatine Kinase	ITAK1045
Cytochrome b5	ITAK1034
Dehydroascorbate Reductase	ITAK1054
Dehydroascorbic Acid	ITAK1049
Diamine Oxidase	ITAK1055
Erythromycin N-Demethylase	ITAK1033

Product Description	Cat No.
Fructose (Plant)	ITAK1035
Glucose (Serum)	ITAK1094
Glucose (Tissue)	ITAK1025
Glucose Oxidase	ITAK1057
Glucose-6-Phosphate Dehydrogenase	ITAK1046
Glutamate Dehydrogenase	ITAK1066
Glutamate	ITAK1005
Glutamate Synthase	ITAK1064
Glutaminase	ITAK1065
Glutamine Synthetase	ITAK1021
Glutathione	ITAK1006
Glutathione Reductase	ITAK1043
Glutathione S-Transferase	ITAK1047
Glycolate Oxidase	ITAK1103
Hexokinase	ITAK1073
Hydrogen Peroxide	ITAK1012
Hydroxyproline	ITAK1067
Isocitrate Lyase	ITAK1072
Lactate Dehydrogenase	ITAK1007
L-galactono-1,4-Lactone Dehydrogenase	ITAK1050
Lipase	ITAK1083
Malondialdehyde	ITAK1011
Monoamine Oxidase	ITAK1102
Monodehydroascorbate Reductase	ITAK1053
Na+/K+ ATPase	ITAK1019
NAD Kinase	ITAK1041
NAD/NADH	ITAK1008
NADH Oxidase	ITAK1044
NADP/NADPH	ITAK1009
NADPase	ITAK1017
NADPH-Cytochrome C Reductase	ITAK1030
Neutral Invertase	ITAK1027
Neutral Protease	ITAK1078
Neutral Xylanase	ITAK1089
Nitrate Reductase	ITAK1014
Nitric Oxide	ITAK1063

Product Description	Cat No.
Pectate Lyase	ITAK1093
Pectinase	ITAK1087
Pepsin	ITAK1081
Peroxidase	ITAK1062
Phenylalanine ammonia-lyase	ITAK1018
Phosphoenolpyruvate Carboxylase	ITAK1076
Phosphofructokinase	ITAK1075
Polyphenol Oxidase	ITAK1013
Pyruvate Decarboxylase	ITAK1085
Pyruvate Dehydrogenase	ITAK1071
Pyruvate	ITAK1016
Pyruvate Kinase	ITAK1074
Serum Calcium	ITAK1105
Serum Iron	ITAK1106
Serum Kalium	ITAK1104
Serum Magnesium	ITAK1107
Serum Natrium	ITAK1109
Serum Phosphorus	ITAK1108
Serum Zinc	ITAK1110
Sorbitol	ITAK1100
Sorbitol Dehydrogenase	ITAK1101
Starch	ITAK1022
Succinate Dehydrogenase	ITAK1070
Sucrase (Plant)	ITAK1037
Sucrose (Plant)	ITAK1036
Sucrose Phosphate Synthase	ITAK1039
Sucrose Synthase	ITAK1038
Superoxide Dismutase	ITAK1010
Tannin	ITAK1060
Thioredoxin Reductase	ITAK1042
Total Antioxidant Capacity	ITAK1111
Trehalase	ITAK1015
Trehalose	ITAK1029
Triglyceride	ITAK1086
Trypsin	ITAK1080
Uric Acid	ITAK1058
Xanthine Oxidase	ITAK1056

Reporter Gene Assays

Reporter gene assays are used for the expression of the gene of interest, which may produce a protein that has little obvious or immediate effect on the cell culture. Reporter genes can be used to assay for the activity of a particular promoter in a cell or organism.

Lumino™ Firefly Luciferase Assays

Widely used reporter assays to detect and measure gene expression, function and regulation. Our Lumino™ Firefly Luciferase Assay is designed for rapid and high sensitive detection or quantification of firefly luciferase reporter enzyme activity from cultured bacterial or mammalian cells. Lumino™ Firefly Luciferase Assay is a flash-type luminescence assay with the signal half-life of around 12 minutes.

Luciferase (Firefly, Recombinant)

A unique photoprotein used in bioluminescence for high sensitive detection and quantification of ATP and as a reporter for studying gene function and regulation. Luciferase (Firefly, Recombinant) is recombinant 62 kDa protein expressed in E. Coli

β-Galactosidase Assay

β-Galactosidase (lacZ) is a commonly used reporter molecule. Our assays are easy, rapid, and highly sensitive method for determining the β-galactosidase activity in the lysates of cells transfected with a β-Galactosidase expression construct.

The β-Galactosidase Assay (CPRG) assay uses chlorophenol red-β-D-galactopyranoside (CPRG), which is up to 10 times more sensitive than the classic o-nitrophenyl-β-D-galactopyranoside (ONPG) β-Galactosidase assays. This increased sensitivity makes it simpler to measure β-galactosidase activity in cells that are difficult to transfect or have low β-galactosidase activity expression.

The β-Galactosidase Assay (MUG) use esters of the fluorescent compound, 4-methylumbelliferone (4-MU), provide a sensitive, quantitative assay for β-galactosidase. 4-methylumbelliferyl-β-D-galactopyranoside (4-MUG) is a substrate of β-galactosidase that does not fluoresce until cleaved by the enzyme to generate the fluorophore 4-methylumbelliferone. The assay can be used with extracts from different expression systems including mammalian, insect cells, yeast, and bacteria.

Senescence Cells Assay

Contains all the reagents required for identifying senescent cells using an assay based on a histochemical stain for β-galactosidase activity at pH 6. β-galactosidase activity is detectable in senescent cells, but not in quiescent, immortal, or tumor cells. The 200ml histochemical stain is sufficient for 400 assays.

Product Description	Cat. No.	Pack Size
Lumino™ Firefly Luciferace Assay	786-1267 786-1268	100 Assays 1000 Assays
Recombinant Firefly Luciferace	786-1398 786-1309	100µg 500µg
β-Galactosidase Assay (MUG)	768-654	500 Assays
β-Galactosidase Assay (CPRG)	768-651	500 Assays
Senescence Cells Assay	786--1068	200ml

Caspase Assays & Accessories

Our CasPASE™ Apoptosis Assays kits are designed to monitor apoptosis by measuring various caspase (protease) activities, a key early indicator of apoptosis in mammalian cells & tissues. The assay provides a simple and easy to follow method that can be monitored. Each CasPASE™ assay kit is supplied with necessary assay buffers, enzyme specific substrate, free dye, and the potent caspase inhibitor for establishing proper positive and negative controls and standards. The kit can conveniently adaptable for high-throughput 96-well format.

A wide selection of Apoptosis assay accessories are also available including Apoptotic DNA Ladder, substrates and uninduced lysates, inducers & inhibitors.

CasPASE™ Fluorometric Assay

Based on the detection of cleavage of a synthetic substrate, labeled with the 7-amino-4-trifluromethyl coumarin (AFC) at the C-terminal

CasPASE™ 1, 4, 5 Assay	786-200A	50 Assays
	786-200B	100 Assays
CasPASE™ 2 Assay	786-201A	50 Assays
	786-201B	100 Assays
CasPASE™ 3, 7, 10 Assay	786-202A	50 Assays
	786-202B	100 Assays
CasPASE™ 6 Assay	786-203A	50 Assays
	786-203B	100 Assays
CasPASE™ 8 Assay	786-204A	50 Assays
	786-204B	100 Assays
CasPASE™ 9 Assay	786-205A	50 Assays
	786-205B	100 Assays
CasPASE™ 13 Asaasy	786-206A	50 Assays
	786-206B	100 Assays

CasPASE™ Colorimetric Assay

Based on the detection of cleavage of a synthetic substrate, labeled with the chromophore ρ-nitroaniline (ρNA) at the C-terminal

CasPASE™ 1, 4, 5 Assay	786-858A	50 Assays
	786-858B	100 Assays
CasPASE™ 2 Assay	786-859A	50 Assays
	786-859B	100 Assays
CasPASE™ 3, 7, 10 Assay	786-860A	50 Assays
	786-860B	100 Assays
CasPASE™ 6 Assay	786-861A	50 Assays
	786-861B	100 Assays
CasPASE™ 8 Assay	786-862A	50 Assays
	786-862B	100 Assays
CasPASE™ 9 Assay	786-863A	50 Assays
	786-863B	100 Assays

CaspaseUninduced Lysate

An ideal negative control for studying apoptosis, is supplied as a stabilized pellet along with CasPASE Lysis Buffer for pellet resuspension. Human Jurkat cells are used for preparing uninduced lysates.

Caspase Uninduced Lysate	786-CUL	0.5ml

Caspase Inhibitor & Substrate

Caspase -2	Inhibitor	CPI-002	100µl
	Substrate	CPS-002	250µl
Caspase -6	Inhibitor	CPI-006	100µl
	Substrate	CPS-006	250µl
Caspase -8	Inhibitor	CPI-008	100µl
	Substrate	CPS-008	250µl
Caspase -9	Inhibitor	CPI-0029	100µl
	Substrate	CPS-009	250µl
Caspase -1, 4, 5	Inhibitor	CPI-145	100µl
	Substrate	CPS-145	250µl
Caspase -3, 7, 10	Inhibitor	CPI-370	100µl
	Substrate	CPS-370	250µl
Set	Inhibitor	CPI-113S	8 x 100µl
	Substrate	CPS-113S	7 x 250µl
Caspase General Inhibitor		CPI-00G	100µl

Caspase Inhibitor & Substrate

Contains all of the reagents necessary for the preparation of cellular fractions for the production of apoptosis nucleosomal DNA ladders. The kit does not require the use of toxic phenol. The protocol involves: cell lysis; removal of cellular debris; and precipitation of nucleosomal DNA. The kit is suitable for preparing up to 100 apoptotic ladders.

Apoptotic DNA Ladder Kit	786-209	100 Preps

Flow Cytometer Antigens

The cluster of differentiation often abbreviated as CD is a protocol used for the identification and investigation of cell surface molecules providing targets for immunophenotyping of cells. The CD system is commonly used as cell markers; this allows cells to be defined based on what molecules are present on their surface.

CD molecules can act in numerous ways, often acting as receptors or ligands (the molecule that activates a receptor) important to the cell. A signal cascade is usually initiated, altering the behavior of the cell. Some CD proteins do not play a role in cell signaling, but have other functions, such as cell adhesion.

At present, CD antigens for humans are numbered up to 371. We offer most common CD antigens as purified format in 100ug pack as well ready-to-use conjugated format in 50/100 Test packs. Most of our CD Antigens are available with APC, FITC & PE labeled and few of them available with APC-Cy7, PE-Cy5, PE-Cy7, PerCP, PerCR-Cy5.5 & V450 conjugates.

Product	Clone	Isotype
CD1a	HI149	mouse IgG1
CD2	HIT11	mouse IgG1
CD3	HIT3a	mouse IgG2a
CD3	HIT3b	mouse IgG1
CD4	HIT4a	mouse IgG2b
CD5	HISM2	mouse IgG1
CD6	HI210	mouse IgG1
CD7	HIT7	mouse IgG1
CD8	HIT8a	mouse IgG1
CD9	HI9a	mouse IgG1
CD10	HI10a	mouse IgG1
CD11a	HI111	mouse IgG1
CD11b	HI11b	mouse IgG1
CD13	M15	mouse IgG1
CD14	HI221	mouse IgM
CD15	HI98	mouse IgM
CD16	HI16a	mouse IgG1
CD18	HI18a	mouse IgG1
CD19	HI19a	mouse IgG1
CD20	HI47	mouse IgG3
CD20	HI20a	mouse IgG2a
CD21	HI21a	mouse IgG2a
CD22	HIB22	mouse IgG1

Product	Clone	Isotype
CD24	HI45	mouse IgG1
CD25	HI25a	mouse IgG1
CD29	HI29a	mouse IgG1
CD33	HI33a	mouse IgG2a
CD33	HIM3-4	mouse IgG1
CD34	4H11	mouse IgG1
CD38	HIT2	mouse IgG1
CD38	HI157	mouse IgG2a
CD40	HI40a	mouse IgG2b
CD41	HIP2	mouse IgG1
CD41	HIP8	mouse IgG3
CD42b	HIP1	mouse IgG1
CD43	HI165	mouse IgG1
CD44	HI44a	mouse IgG2a
CD45	HI30	mouse IgG1
CD45	HI73	mouse IgG2a
CD45	HI151	mouse IgG1
CD45	HI185	mouse IgG1
CD45RA	HI100	mouse IgG2a
CD47	HIRH47	mouse IgG1
CD47	HI172	mouse IgG1
CD52	HI186	mouse IgG2b
CD53	HI29	mouse IgG1

Product	Clone	Isotype
CD53	HI36	mouse IgG3
CD55	HI55a	mouse IgG2a
CD56	B-A19	mouse IgG1
CD57	HI57a	mouse IgM
CD58	HI58a	mouse IgG1
CD62E	HI62E	mouse IgG2a
CD62L	HI62L	mouse IgG2a
CD62p	HI62P	mouse IgG1
CD64	10.1	mouse IgG1
CD71	HI160	mouse IgG2b
CD71	HI166	mouse IgG1
CD99	HI156	mouse IgG2a
CD99R	HIT4	mouse IgM
CD117	104D2	mouse IgG1
CD123	6H6	mouse IgG1
CD127	A019D5	mouse IgG1
CD138	MI15	mouse IgG1
CD235a	HI264	mouse IgG2a
CD235ab	HIR2	mouse IgG2b
CD319	162.1	mouse IgG2b
HLA-I	HI21	mouse IgG2a
HLA-DR	HI43	mouse IgG1
HLA-DR	HI159	mouse IgG2b

Isotype Controls, Whole Serums & Antibodies

Immunoglobulin Proteins (Isotype Controls)

Isotype Controls are a type of negative control that indicates the potential non-specific binding of your primary antibody. Primary antibodies can bind to FC receptors expressed on non-target cell types, as well as non-specifically to other cellular proteins, sugars, and/or lipids. An Isotype Control should be selected that matches the host species and isotype of the primary antibody. Isotype Controls can also be used for a variety of other applications, such as ELISA, WB, IP, IF, IHC & FC.

Product Description	Cat. No.	Pack
Bovine IgG	SP033	10mg
Chicken IgG	SP035	10mg
Canine IgG	SP036	10mg
Goat IgG	SP038	10mg
Guinea Pig IgG	SP040	10mg
Equine IgG	SP042	10mg
Human Gamma Globulins	SP014	10mg
Human IgA	SP016	10mg
Human IgG	SP001	10mg
Human IgM	SP015	10mg
Mouse IgG	SP031	10mg
Porcine IgG	SP037	10mg
Rabbit IgG	SP034	10mg
Rat IgG	SP032	10mg

Normal Serum (Whole Antiserum)

Antiserum is derived from whole blood from an immunized host from which clotting proteins and red blood cells are removed. The antiserum contains antibodies (a.k.a. Immunoglobulin) of all classes as well as other serum proteins. Normal whole serum useful as detection controls or to purify the specific antibody for the ELISA, WB, IHC, IF & IP applications

Product Description	Cat. No.	Pack
Normal Chicken Serum	SL035	10ml
Normal Equine Serum	SL042	10ml
Normal Goat Serum	SL038	10ml
Normal Human Serum	SL010	5ml
Normal Rabbit Serum	SL034	10ml
Normal Sheep Serum	SL039	10ml

Secondary Antibodies (Purified)

Product Description	Host	Cat. No.	Pack
anti-Avidin	Rabbit	SPA265	1mg
anti-Biotin	Rabbit	SPA264	1mg
anti-Bovine IgG	Goat	SPA133	1mg
anti-BSA	Goat	SPA163	1mg
anti-Chicken IgG	Goat	SPA235	1mg
anti-Canine IgG	Rabbit	SPA236	1mg
anti-Equine IgG	Rabbit	SPA242	1mg
anti-Guinea Pig IgG	Rabbit	SPA240	1mg
anti-HRP	Rabbit	SPA261	1mg
anti-Human Albumin	Goat	SPA107	1mg
anti-Human C3	Goat	SPA109	1mg
anti-Human IgA	Goat	SPA102	1mg
anti-Human IgG	Goat	SPA101	1mg
	Rabbit	SPA201	1mg
anti-Human IgG (Fc)	Goat	SPA105	1mg
	Rabbit	SPA205	1mg
anti-Human IgM	Goat	SPA103	1mg
anti-IgG	Goat	SPA134	1mg
	Rabbit	SPA238	1mg
anti-Monkey IgG	Rabbit	SPA241	1mg
anti-Mouse IgG	Goat	SPA131	1mg
	Rabbit	SPA232	1mg
anti-Porcine IgG	Goat	SPA137	1mg
anti-Rat IgG	Goat	SPA132	1mg
	Rabbit	SPA231	1mg

Loading Controls & Epitope Tag Antibodies

Loading Controls

Western blotting is an essential technique to probe protein expression in complex cell or tissue lysates. Since the multiple steps are involved during the Western blotting process, including sample preparation, sample loading, electrophoresis, protein transfer, antibody incubation, and signal detection. To accurately determine protein expression and interpret Western blot results, it is important to use loading controls.

Product Description	Host	Type	Cat. No.	Pack
Anti-α-Tubulin	Mouse	Monoclonal	M1000130	100µl
	Rabbit	Polyclonal	RG000130	100µl
Anti-β-Actin	Mouse	Monoclonal	M1000120	100µl
	Rabbit	Polyclonal	RG000120	100µl
Anti-β-Tubulin	Mouse	Monoclonal	M1000140	100µl
	Rabbit	Polyclonal	RG000140	100µl
Anti-GAPDH	Mouse	Monoclonal	M1000110	100µl
	Rabbit	Polyclonal	RG000110	100µl

Epitope Tag Antibodies

Epitope tags are short peptide sequences which are chosen because high-affinity antibodies can be reliably produced in many different species. These are usually derived from viral genes, which explain their high immune-reactivity. Epitope Tags are used in antibody purification process, but they are particularly useful for Immunoprecipitation (IP), Immunefluorescence (IF) and western blotting (WB) experiments.

Product Description	Host	Type	Cat. No.	Pack
Anti-c-Myc	Mouse	Monoclonal	M1001050	100µl
	Rabbit	Polyclonal	RG001050	100µl
Anti-FLAG	Mouse	Monoclonal	M1001060	100µl
	Rabbit	Polyclonal	RG001060	100µl
Anti-GFP	Mouse	Monoclonal	M1001030	100µl
	Rabbit	Polyclonal	RG001030	100µl
Anti-GST	Mouse	Monoclonal	M1001040	100µl
	Rabbit	Polyclonal	RG001040	100µl
Anti-HA	Mouse	Monoclonal	M1001010	100µl
	Rabbit	Polyclonal	RG001010	100µl
Anti-His	Mouse	Monoclonal	M1001020	100µl
	Rabbit	Polyclonal	RG001020	100µl

Secondary Antibodies

Product	Host	Conjugate	Cat. No.	Pack
anti-Avidin	Rabbit	Purified	SA265	500µl
		FITC	SF265	500µl
		HRP	SE265	100µl
anti-Biotin	Rabbit	Purified	SA264	500µl
		FITC	SF264	500µl
		HRP	SE264	100µl
anti-Bovine IgG	Goat	Purified	SA133	500µl
		FITC	SF133	500µl
		HRP	SE233	100µl
	Rabbit	Col. Gold	SGA233	1ml
anti-Canine IgG	Rabbit	Purified	SA236	500µl
anti-Chicken IgG	Goat	Purified	SA135	500µl
		FITC	SF135	300µl
		HRP	SE135	100µl
	Rabbit	Purified	SA235	500µl
		Biotin	SHB235	100µl
		HRP	SE235	100µl
		Col. Gold	SGA235	1ml
anti-Equine IgG	Goat	Purified	SA142	500µl
		FITC	SF142	500µl
		HRP	SE142	100µl
	Rabbit	Purified	SA242	500µl
anti-FITC	Rabbit	HRP	SE262	100µl
anti-Goat IgG	Rabbit	Purified	SA238	500µl
anti-HRP	Rabbit	Purified	SA261	500µl
anti-Human Albumin	Goat	Purified	SA107	500µl
		FITC	SF107	500µl
		HRP	SE107	100µl
anti-Human C3	Goat	Purified	SA109	500µl
		Biotin	SHB109	100µl
		FITC	SF109	500µl
		HRP	SE109	100µl
anti-Human Fibrinogen	Goat	Purified	SA108	500µl
		FITC	SF108	500µl
	Rabbit	Purified	SA208	500µl
anti-Human IgA	Goat	Purified	SA102	500µl
		Biotin	SHB102	100µl

Product	Host	Conjugate	Cat. No.	Pack
anti-Human IgG	Goat	Purified	SA101	500µl
		AP	SK101	100µl
		Biotin	SHB101	100µl
		HRP	SE101	100µl
		FITC	SF101	300µl
		Col. Gold	SGA101	1ml
	Rabbit	Purified	SA201	500µl
anti-Human IgG (Fab)	Goat	HRP	SE206	100µl
anti-Human IgG (Fc)	Goat	Purified	SA105	500µl
		HRP	SE205	100µl
anti-Human IgM	Goat	Purified	SA103	500µl
		Biotin	SHB103	100µl
		HRP	SE103	100µl
		Col. Gold	SGA103	1ml
	Rabbit	Purified	SA203	500µl
		FITC	SF103	500µl
anti-Human Serum	Goat	Purified	SA110	500µl
anti-IgG	Goat	Biotin	SHB134	100µl
		FITC	SF134	300µl
		HRP	SE134	100µl
		Col. Gold	SGA134	1ml
	Rabbit	Biotin	SHB238	100µl
		FITC	SF238	500µl
		Col. Gold	SGA238	1ml
anti-Mouse IgG	Goat	Purified	SA132	500µl
		Biotin	SHB131	100µl
		FITC	SF131	300µl
		HRP	SE131	100µl
		Col. Gold	SGA131	1ml
	Rabbit	Purified	SA231	500µl
anti-Porcine IgG	Goat	Purified	SA137	500µl
		Biotin	SHB137	100µl
		HRP	SE137	100µl
	Rabbit	Purified	SA237	500µl
anti-Rabbit IgG	Goat	Purified	SA134	500µl
anti-Rat IgG	Goat	Purified	SA131	500µl

Antibody Production & Labeling

G-Biosciences offer a wide array of products for the successful generation of antibodies including carrier proteins, coupling, fragmentation, adjuvant reagents & antibody labeling kits.

Carrier Proteins

The most common carrier proteins are BSA & KLH, where we are also offering maleimide activated carrier proteins ActiveHOOK™ BSA & KLH. Both rapidly couple to free sulfhydryl groups on peptides and proteins using just one simple step. The activated ActiveHOOK™ carrier proteins save both time and money as separate cross-linkers are not required. Our HyperCarrier™ uses cationized BSA which has been found to elicit greater immunogenic response compared to normal BSA.

ActiveHOOK™ BSA	786-087	10mg
ActiveHOOK™ KLH	786-089	10mg
ActiveHOOK™ HyperCarrier™	786-097	10mg
HyperCarrier™	786-096	10mg
BSA	786-086	10mg
KLH	786-088	10mg

Peptide Coupling Kit

The Peptide Coupling kits are designed to attach the peptides to a carrier protein of choice using either primary amines or sulfhydryls. The HOOK™ Peptide Coupling kits are also supplied with one of our carrier proteins or without a carrier protein.

HOOK™ Peptide Coupling Kit (Amine Reactive)	-	786-067	5rxn
	BSA	786-068	5rxn
	KLH	786-069	5rxn
	HC™	786-070	5rxn
HOOK™ Peptide Coupling Kit (Sulfhydryl reactive)	-	786-071	5rxn
	BSA	786-073	5rxn
	KLH	786-072	5rxn
	HC™	786-074	5rxn

Antibody Adjuvants

Our adjuvants enhanced the immunization process of antigen to raise the antibodies. The G-Alum™ Kit is alum-antigen precipitate kit where in alum-antigens complex is co-precipitated as gel. The kit has two components Aluminum Solution and Precipitating Agent.

Alum Adjuvant	786-1215	50ml
G-Alum™ Adjuvant Kit	786-1216	Kit
No-Waste™ Freund's Complete Adjuvant	786-709 786-710	2ml 5 x 2ml
No-Waste™ Freund's Incomplete Adjuvant	786-098 786-099	2ml 5 x 2ml

Antibody Fragmentation

The whole antibodies are ideal for most immunoassay applications, to enhance certain assays it is preferred to use only the antigen binding fragments, such as Fab and F(ab')2. We offer array of products for the antibody fragmentation.

Fab (Micro) Kit	786-273	10rxn
Fab Kit	786-272	10rxn
F(ab)2 (Micro) Kit	786-275	10rxn
F(ab)2 Kit	786-274	10rxn
Fab & F(ab)2 (Ms. IgG1)	786-276	10rxn
Fab & F(ab)2 (Ms. IgG2)	786-277	10rxn
Immobilized Ficin	786-793	5ml
Immobilized Heparin	786-842	5ml
Immobilized Papain	786-790	5ml
Immobilized Pepsin	786-791	5ml

Antibody Labeling

Dye-NHS Ester is used for labeling antibodies, proteins, nucleic acids for application is biochemical detection assays including Flow Cytometry Western Blotting, Microscopy and Imaging. The fluorescent dyes are water, DMSO & DMF soluble and amine reactive with a single negative charge. The dyes have high molar extinction co-efficient and belong to class of tri-, penta-, and hepta- methane cyanines. The kit contains ready-to-use dye, purification column, resin and required buffers for antibody labeling and purification

HOOK™ 550 Dye-NHS Ester	786-1234 786-1235	1 mg 5 mg
HOOK™ 590 Dye-NHS Ester	786-1237 786-1238	1 mg 5 mg
HOOK™ 645 Dye-NHS Ester	786-1228 786-1229	1 mg 5 mg
HOOK™ 678 Dye-NHS Ester	786-1240 786-1241	1 mg 5 mg
HOOK™ 770 Dye-NHS Ester	786-1231 786-1232	1 mg 5 mg
HOOK™ 550 Dye Labeling Kit	786-1225	1 Kit
HOOK™ 645 Dye Labeling Kit	786-1226	1 Kit
HOOK™ 770 Dye Labeling Kit	786-1227	1 Kit

Non-Animal Origin rProteins & rEnzymes

Non-animal origin products prevent contamination of the products with mammalian viruses and human pathogens. Our non-animal origin Recombinant Proteins are derived from the non-transgenic plants, which are animal component free and have good batch consistent. The rice endosperm (Oryza Sativa) platform use transient expression of a vector containing the cDNA of the protein of interest. The process avoids any potential risk of animal contaminants, bacteria, virus, which is very important for the cell culture. The large scales production provides the stability for the bio-processing needs.

- Excellent batch consistency
- Purity levels are 95% or greater
- Endotoxin levels are <1EU/ug protein
- Increasing protein expression levels

Although, our other non-animal origin proteins & enzymes are expressed in E.coli. The synthesized gene used as genetic construct to express the protein. The entire process avoids any potential risk of animal contaminants, bacteria, virus, which is very important for the cell culture or upstream process. The products are manufactured in GMP accredited facility; where no animal components are used, the proteins & enzymes are 100% Animal Origin Free.

Product Description	Purity	Cat. No.	Pack
Oryza Sativa Expressed			
Alpha-1 Antitrypsin	≥95%	OSRP-1	1mg
Basic Fibroblast Growth Factor	≥95%	OSRP-2	10ug
Epidermal Growth Factor	≥98%	OSRP-3	1mg
Human Serum Albumin	≥99%	OSRP-4	1gm
Insulin Like Growth Factor 1 - LR3	≥98%	OSRP-6	1mg
Lactoferrin	≥95%	OSRP-7	1gm
Transferrin	≥95%	OSRP-8	1gm
E.*coli* Expressed			
Aprotinin	≥95%	ECRP-1	10mg
Carboxypeptidase B	≥95%	ECRP-2	10mg
Chymotrypsin	≥95%	ECRP-3	10mg
Enterokinase	≥95%	ECRP-4	100u
Trypsin (identical to Human Pancreas)	≥95%	ECRP-5H	1gm
Trypsin (identical to Porcine Pancreas)	≥95%	ECRP-5P	1gm

Mass Spec & Sequencing Grade Reagents

G-Biosciences offers variety of reagents for the mass spectrometry and sequencing including mass spectrometry grade Trypsin and the highly purified preparations of other proteases.

Our Proteomic Grade Water removes contamination worries and improves reliability of 2D gel analysis.

The Blue-OUT™ & SilverOUT™ are the selection for the destaining solutions and are fully compatible with downstream processes including mass spectrometry and sequencing.

OurTrypsin Digestion Buffer provides optimal buffered conditions for in gel trypsin digestion and the Pep-Extract™ rapidly elutes digested peptides in <20 minutes.

The InGel™ is a highly reliable method for the proteolytic digestion of proteins in gel for subsequent analysis by mass spectrometry (MALDI and LC MS/MS); where InGel™Array is also available for high-throughput in gel digestion.

FOCUS™ FASTsilver™ is staining system that produces crystal clear backgrounds and maximal peptide recovery needed for critical analysis by mass spectrometry.

Immobilized Trypsin is TPCK Treated Trypsin that eliminates the contamination of protein digests by the trypsin. Immobilized Soybean Trypsin Inhibitor (STI) is designed for the efficient removal of trypsin, chymotrypsin and elastase proteases from protein digests.

Product Description	Cat. No.	Pack Size
Sequencing Grade Proteolytic Enzymes		
SG-Arginine-C™	786-11	2 x 10µg
SG-Carboxypeptidase-B™ (Recombinant)	786-1249	0.1mg
	786-1250	1mg
SG-Chymotrypsin™	786-13	2 x 5µg
SG-Chymotrypsin™ (Human Recombinant)	786-1251	0.1mg
	786-1252	1mg
SG-Glutamic-C™	786-15	2 x 10µg
SG-Lysine-C™	786-14	1 x 20µg
Trypsin (Human Recombinant)	786-1253	1mg
	786-1254	5mg
	786-1255	50mg
Trypsin (Bovine)	786-245B	5 x 20µg
	786-687B	100µg
Trypsin (Porcine)	786-245	5 x 20µg
	786-687	100µg
	786-688	200µg

Product Description	Cat. No.	Pack Size
Sequencing Grade Reagents & Kits		
Water, Proteomic Grade	786-229	1 Ltr.
Proteinase K	RC1176	100mg
Blue-OUT™	786-683	10ml
SilverOUT™	786-244	100 Preps
Trypsin Digestion Buffer	786-242	100 Preps
Pep-Extract™	786-243	500 Preps
InGel™ Blue	786-681	100 Spots
InGel™ Silver	786-241	100 Spots
InGel™ Array	786-241A	500 Preps
FOCUS™ FASTsilver™	786-240T	5 Mini Gels
	786-240	25 Mini Gels
Immobilized Trypsin Resin	786-792	2ml
Immobilized Soybean Trypsin Inhibitor	786-843	2ml

Protein Cross-Linkers

Cross-linking agents are used to study protein structure and function, to anchor proteins to solid supports, preparation of immunogens, immunotoxins, and other conjugated protein reagents. Cross-linking agents contain at least two reactive groups that are reactive towards numerous groups, including sulfhydryls and amines, and create chemical covalent bonds between two or more molecules. Cross-linking agents can be divided into groups dependent on the number & similarity of the reactive groups.

Product Description	Cat. No.	Pack
Homobifunctional Cross-Linkers		
BSOCOES (Bis [2(Succinimidooxycarbonyloxy)ethyl] Sulfone)	BC01	100mg
DPDPB (1,2-Di [3'-(2'pyridyldithio)propionamido] Butane)	BC03	100mg
DSP (Dithiobis (succinimidyl Propionate))	BC07	1g
DSS (Disuccinimidyl Suberate)	BC04	1g
DST (Disuccinimidyl Tartrate)	BC05	1g
DTSSP (3,3'Dithiobis (sulfosuccinimidyl Propionate))	BC08	100mg
EGS (Ethylene Glycol bis (succinimidyl Succinate))	BC09	1g
Sulfo DST (Sulfo Disulfosuccinimidyl Tartrate)	BC06	100mg
Hetrobifunctional Cross-Linkers		
EDC (1-Ethyl-3-[3dimethylaminopropyl] carbodiimide hydrochloride)	BC25-1 BC25-5	1g 5g
EMCH N-(Emaleimidocaproic acid hydrazide)	BC15	50mg
EMCS ([N-(Emaleimidocaproyloxy) succinimide Ester])	BC16	100mg
GMBS (NMaleimidobutyryloxysuccinimide Ester)	BC13	100mg
Mal-PEG-SCM (Maleimide-PEGsuccinimidyl carboxy methyl)	BC27	100mg
MBS (mMaleimidobenzoyl-Nhydroxysuccinimide Ester)	BC11	100mg
PMPI N-(pMaleimidophenyl Isocyanate)	BC18	50mg
SIAB (N-Succinimidyl (4iodoacetyl) Aminobenzoate)	BC19	100mg
SMCC (Succinimidyl-4(Nmaleimidomethyl) cyclohexane1-carboxylate)	BC20	100mg
SMPB (Succinimidyl 4(pmaleimidophenyl) Butyrate)	BC21	100mg
Sulfo MBS (mMaleimidobenzoyl-Nhydroxysulfosuccinimide Ester)	BC12	100mg
Sulfo EMCS ([N-(Emaleimidocaproyloxy) sulfo succinimide Ester)	BC17	50mg
Sulfo GMBS (NMaleimidobutyryloxysulfosuccinimide ester)	BC14	100mg
Sulfo SIAB N(Sulfosuccinimidyl(4iodoacetyl) Aminobenzoate)	BC22	100mg
Sulfo SMCC (Sulfosuccinimidyl-4-(N-maleimidomethyl)cyclohexane1-carboxylate)	BC23	100mg
Sulfo SMPB (Succinimidyl 4(pmaleimidophenyl)Butyrate)	BC24	100mg
Photoreactive Cross-Linkers		
ABH (p-Azidobenzoyl Hydrazide)	BC28	100mg
ANB-NOS (N-5-Azido2nitrobenzoyloxysuccinimide)	BC29	100mg
APDP (N-[4-(pAzidosalicylamido)butyl]-3(2'-pyridyldithio) propionamide)	BC32	100mg
APG (p-Azidophenyl Glyoxal monohydrate)	BC30	100mg
BASED (Bis [B-(4azidosalicylamido)ethyl]disulfide)	BC33	100mg
NHS-ASA (NHydroxysuccinimidyl-4azidosalicylic acid)	BC34	50mg
Sulfo HSAB (NHydroxysulfosuccinimidyl4-azidobenzoate)	BC35	100mg
Sulfo SADP (Sulfosuccinimidyl (4azidophenyl)-1,3dithiopropionate)	BC39	100mg
Sulfo SAND (Sulfosuccinimidyl 2-(mazido-onitrobenzamido)-ethyl1,3'-dithiopropionate)	BC37	100mg
Sulfo SANPAH (Sulfosuccinimidyl 6-(4'azido-2'nitrophenylamino) hexanoate)	BC38	100mg
Sulfo SASD Sulfosuccinimidyl-2-(pazidosalicylamido)ethyl1,3-dithiopropionate	BC40	100mg

Protein Modification Reagents

We offer a variety of protein modification reagents including Amino acid side chain modifiers, Denaturants Alkylating, Iodination & Reducing reagents.

Product Description	Cat. No.	Pack Size
Amino Acid Side Chain Modifiers		
4-Vinylpyridine	786-031	1ml
Citraconic Anhydride	786-389	10g
L-Cysteine-Hcl, monohydrate	786-713	5g
p-Hydroxyphenyl Glyoxal	BC94	100mg
SATA N-Succinimidyl Sacetylthioacetate	BC96	100mg
Sodium Metaperiodate	BKC-15	5g
Sulfo NHS NHydroxysulfosuccinimide	BC97	500mg
Sulfo NHS Acetate (Sulfo succinimidyl acetate)	BC91	100mg
TNBS (2,4,6-trinitrobenzene Sulfonic acid)	BC86	10ml
Traut's Reagent (2-Iminothiolane.HCl)	BC95	500mg
Alkylating Reagents		
Iodoacetamide	RC1112	5g
Denaturants		
Guanidine Hcl	RC1096	100g
Urea	RC1231	500g
Iodination Reagents		
Bolton Hunter Reagent (SHPP)	BC84	1g
Iodination Reagent (1,3,4,6-Tetrachloro-3,6diphenylglycoluril)	BC93	1g
Sulfo SHPP (Sulfosuccinimidyl3(hydroxyphenyl) Propionate	BC92	100mg
Other Reagents		
DMF, anhydrous	RC1070	100ml
DMSO, anhydrous	RC1071	100ml
Reducing Reagents		
β-Mercaptoethanol	RC1040	100ml
DTT	RC1075	5g
Ellman's Reagent (DTNB)	BC87	25g
Hydroxylamine.HCl	BC80	25g
Immobilized Reductant	786-148	2ml
Protein-S-S-Reductant™	786-25PR	200 Preps
Sodium Cyanoborohydride	786-061	0.5g
TCEP Hcl	RC1208	1g

Protein Detergents

Proteomic Grade Detergent Solutions have ultra-low carbonyl and peroxide contaminants, also the low conductivity to protect your protein during the isolation. In addition, the 2D-Detergent™ solutions have less than 15µS conductivity and contain reduced peroxides and carbonyl compounds. These detergents are offered as 10% aqueous solutions, sealed under inert gas and are suitable for all protein applications, including 2D-electrophoresis. We also offer the large number of research grade ionic detergents and non-ionic detergents are offered, including SDS and Nonidet P-40 (NP40) Substitute and a range of Zwitterionic detergents, including CHAPS, sulfobetaines and amidosulfobetaines. The non-ionic detergents are suitable for isolating membrane-protein complexes. The aldehyde levels are <50µM, the peroxide levels are <10µM and have a conductivity of <15µS.

Our Detergent Removal Systems remove a large selection of detergents, including SDS, from a variety of protein solutions.

Product Description	Cat. No.	Pack Size
Proteomics Grade Detergents		
Brij® 35	DG003 DG004 DG503 DG515	5 x 10ml 10 x 10ml 50ml 100ml
Brij® 58	DG005 DG006 DG505 DG516	5 x 10ml 10 x 10ml 50ml 100ml
Nonidet® P-40 Substitute	DG001 DG002 DG501 DG514	5 x 10ml 10 x 10ml 50ml 100ml
Triton® X-100	DG007 DG008 DG507 DG518	5 x 10ml 10 x 10ml 50ml 100ml
Triton® X-114	DG009 DG010 DG509 DG518	5 x 10ml 10 x 10ml 50ml 100ml
Tween® 20	DG011 DG012 DG511 DG519	5 x 10ml 10 x 10ml 50ml 100ml
Tween® 80	DG013 DG014 DG513 DG520	5 x 10ml 10 x 10ml 50ml 100ml
Detergent Variety Pack	DG521	7 x 10ml
2D-Detergents™		
2D-Detergent™ Nonidet® P-40	DG901 DG902	5 x 10ml 10 x 10ml
2D-Detergent™ Triton® X-100	DG907 DG908	5 x 10ml 10 x 10ml
Detergent Detection Assays		
CMC-535™ Detergent Assay	DG535	200 rxn
Optimizer blueBALLS™	DGA01	500
SDS Detection Assay	786-129	15 rxn

Product Description	Cat. No.	Pack Size
Ionic Detergents		
CTAB	DG094	25g
Deoxycholate	DG090	100g
SDS	DG093	500g
SDS [10%]	R014	100ml
SDS [20%]	786-016	500ml
Non-Ionic Detergents		
BigCHAP	DG023 DG024	1g 5g
DEOXY BIG CHAP	DG026 DG025	5g 1g
MEGA-8	DG017 DG018	1g 5g
MEGA-9	DG019 DG020	1g 5g
MEGA-10	DG021 DG022	1g 5g
Octyl β Glucoside	DG015 DG016	1g 5g
Zwitterionic Detergents		
ASB-14	DG060 DG061	1g 5g
ASB-16	DG062 DG063	1g 5g
ASB-C8Ø	DG064 DG065	1g 5g
CHAPS	DG049 DG050	1g 5g
CHAPSO	DG052 DG053	1g 5g
ND SB 201	DG080 DG081	25g 100g
SB3-10 (Sulfobetaine 3-10)	DG054 DG055	1g 5g
SB3-12 (Sulfobetaine 3-12)	DG056 DG057	1g 5g
SB3-14 (Sulfobetaine 3-14)	DG058 DG059	1g 5g

*Please refer to Sample Preparation for the Detergent Removal

Biotinylation Reagents & Kits

Biotin exhibits an extraordinary binding affinity for avidin and streptavidin. The biotinylated molecules are efficiently probed with avidin or streptavidin conjugated to reporter molecules, such as peroxidases or phosphatases. The use of biotin for non-radioactive labeling of proteins and nucleic acids has now become popular technique in life science research. Our HOOK™-Biotin kits are offered for the optimization of reaction conditions, efficient labeling, removal of unbound biotin and quantification of biotin labeling. The HOOK™-Biotin kits offer the advantage of being supplied with micro dialysis units and a specific Optimizer Buffer™.

Product Description	Cat. No.	Pack Size
HOOK™ Biotin {d Biotin (Vitamin H)}	BG-00	500mg
HOOK™ Biotin-BMMCC	BG-14	50mg
HOOK™ Biotin-BMMCC Kit	BS-14	10rxn
HOOK™ Biotin-Hydrazide	BG-18	50mg
HOOK™ Biotin-Hydrazide Kit	BS-18	10rxn
HOOK™ Biotin-LC-Hydrazide	BG-19	50mg
HOOK™ Biotin-LC-Hydrazide Kit	BS-19	10rxn
HOOK™ Biotin-PDA	BG-13	50mg
HOOK™ Biotin-PDA Kit	BS-13	10rxn
HOOK™ Biotin-PEG2-Amine	BG-16	50mg
HOOK™ Biotin-PEG2-Amine Kit	BS-16	10rxn
HOOK™ Biotin-PEG3-Amine	BG-17	50mg
HOOK™ Biotin-PEG3-Amine Kit	BS-17	10rxn
HOOK™ BiotinQuant Kit	BKC-01	20rxn
HOOK™ IgG Biotinylation (Amine)	786-728	10rxn
HOOK™ IgG Biotinylation (Sulfhy.)	786-729	10rxn
HOOK™ Iodoacetyl-LC Biotin	BG-12	50mg
HOOK™ Iodoacetyl-LC Biotin Kit	BS-12	10rxn
HOOK™ NHS Biotin	BG-01	50mg
HOOK™ NHS Biotin Kit	BS-01	10rxn
HOOK™ NHS-dPEG4 Biotin	BG-05	50mg
HOOK™ NHS-dPEG4 Biotin (Micro)	786-697	10rxn
HOOK™ NHS-dPEG4 Biotin Kit	BS-05	10rxn

Product Description	Cat. No.	Pack Size
HOOK™ PEG2-Iod. Biotin Kit	BS-11	10rxn
HOOK™ PFP Biotin	BG-10	50mg
HOOK™ PFP Biotin Kit	BS-10	10rxn
HOOK™ Psoralen-PEO Biotin	BG-20	5mg
HOOK™ Sulfo NHS Biotin	BG-06	50mg
HOOK™ Sulfo NHS Biotin (Micro)	786-694	10rxn
HOOK™ Sulfo NHS Biotin Kit	BS-06	10rxn
HOOK™ Sulfo NHS-LC Biotin	BG-07	50mg
HOOK™ Sulfo NHS-LC Biotin (Micr.)	786-695	10rxn
HOOK™ Sulfo NHS-LC Biotin Kit	BS-07	10rxn
HOOK™ Sulfo NHS-LC-LC Biotin	BG-08	50mg
HOOK™ Sulfo NHS-LC-LC Biotin Kit	BS-08	10rxn
HOOK™ Sulfo NHS-SS Biotin	BG-09	50mg
HOOK™ Sulfo NHS-SS Biotin (Micr.)	786-696	10rxn
HOOK™ Sulfo NHS-SS Biotin Kit	BS-09	10rxn
Hydroxylamine.HCl	BC80	25g
Iodination Reagent	BC93	1g
Maleimide-PEG-SCM	BC27	100mg
MBS	BC11	100mg
NHS-ASA	BC34	50mg
1Quant™ DTT [0.5M]	786-077	40 x 7.7mg
1Quant™ DSS	BC04-Q	8 x 2mg
1Quant™ HK™ Iod.-LC Biotin	786-085	8 x 2mg

Polyethylene Glycol (PEG) Derivatives

PEGylation refers to change in structure of protein by linking one or more polyethylene glycol (PEG) chains. It is easily soluble in organic and aqueous solutions and is non-toxic in nature. The chain binds to the drugs covalently and makes it sterically stable. The polymer thus formed is non-toxic, non-antigenic, non-immunogenic, and highly water soluble. It further increases half-life of the drug and reduces dose frequency by preventing renal excretion of drugs. PEGylated drugs are used to treat chronic disorders like cancer. Binding of PEG with drugs facilitates its entry into the tumor cell and to give better therapeutic results. PEG offers advantages such as reduced degradation by metabolic enzymes, elimination of immunogenicity and increased residence in blood. It also enhances the solubility of drugs and reduces effects of proteolytic enzymes, thus improves the bioavailability.

Our unique collection of biopolymers and biofunctional synthetic polymers, including polyethylene glycol, PEG derivatives, PEGylation reagents, polysaccharides, hyaluronic acid, PEGylated copolymers, polyamino acid, block copolymers, biodegradable polymer, biocompatible polymers, and fluorescent dye-labeled and biotinylated polymers. Our high quality PEG products offered with low polydispersity, high reactivity and high purity. Our ready-to-use widely reactive PEG derivatives include functionally diversified of linear, branched, crosslinking, and multi-arm polyethylene glycol derivatives with a broad range of molecular weight.

PEG Derivatives by Functionality	
Acrylate PEG	Lipid PEG
Acrylamide PEG	Maleimide PEG
Aldehyde PEG	NHS ester PEG
Alkyne PEG	Nitrophenyl carbonate (NPC) PEG
Amine PEG	Norbornene PEG
Azide PEG	Orthopyridyl disulfide (OPSS) PEG
Biotin PEG	PEGylated amino acid
Boc/Fmoc protected amine PEG	PEGylated peptide
Carboxylic acid PEG	PEGylated protein
DBCO PEG	Pyrene PEG
Epoxide glycidyl ether PEG	Silane PEG
Fluorescent PEG	Sulfonate (tosyl, mesyl, tresyl) PEG
Halide (chloride, bromide) PEG	tert-Butyl protected carboxylate PEG
Hydrazide PEG	Thiol PEG
Hydroxyl PEG	Vinylsulfone PEG
PEG Derivatives by Reactivity	
Amine Reactive	His-tag (polyhistidine) PEGylation
Biotinylation	Hydroxyl Reactive
Carbon nanotube CNT graphene binding	Polymerizable
Carbonyl Reactive	Protein N-terminal Reactive
Carboxyl Reactive	Self-assembling
Click chemistry	Surface Reactive
Glycoprotein PEGylation	Thiol Reactive
Glycan PEGylation	Thiol-ene Crosslinker Chemistry

Nucleic Acid Purification & Isolation

We offer a large selection of kits for the DNA & RNA Purification & Cleanup.

The GET™ isolation kits are spin-column format kits for the rapid isolation from small sample sizes.

The genomic DNA kits are also available in OmniPrep ™ & XIT™ formats (inquire the details). OmniPrep™ genomic DNA kits are for ultra-pure genomic DNA that is suitable for all downstream applications and fully scalable for large genomic DNA isolations. XIT™ kits require no chloroform or phenol extractionand produce protein free, high quality DNA.

Product Description	Cat. No.	Pack Size
Plasmid DNA Isolation		
GET™ Plasmid Miniprep	786-361	50preps
GET™ Endo -Free Plasmid	786-362	50preps
GET™ Yeast Plasmid	786-363	50preps
DNA Purification & Cleanup		
GET™ Agarose DNA	786-358	50preps
GET™ Clean DNA	786-356	50preps
GET™ Poly -Gel DNA	786-364	20preps
GET™ SDS -PAGE Gel	786-365	25preps
Genomic DNA Purification & Cleanup		
GET™ Bacterial DNA	786-510	50preps
GET™ Blood DNA	786-511	50preps
GET™ Fungi DNA	786-512	50preps
GET™ DNA (universal)	786-513	50preps
GET™ Plant DNA	786-514	50preps
GET™ Soil DNA	786-515	50preps
GET™ Tissues/Cells DNA	786-516	50preps
RNA Purification		
GET™ Total RNA	786-132	50preps
Tri -Xtract™	786-652	100ml
RT-PCR		
M-MLV RT	786-951	5ku
One Step RT-PCR Kit	786-949	50rxn
cDNA Synthesis Kit	786-950	25rxn

PCR, qPCR & Electrophoresis

Product Description	Cat. No.	Pack Size
PCR Reagents		
Taq DNA Polymerase	786-447	1000U
Taq PLUS DNA Polymerase	786-850	250U
Pfu DNA Polymerase	786-816	250U
PCR Master Mixes		
Taq DNA [2x] Mastermix	786-449	1ml
Taq PLUS [2x] Mastermix	786-851	1ml
Pfu [2x] Mastermix	786-817	1ml
dNTPs		
dNTP Mix [10mM]	786-443	1ml
dNTP Set [100mM]	786-460	4 x 250µl
qPCR Master Mixes		
EvagreenqPCR -ROX	786-861	500rxn
EvagreenqPCR -Low ROX	786-858	500rxn
EvagreenqPCR -iCycler	786-859	500rxn
EvagreenqPCR MasterMix	786-860	500rxn
DNA Ladders		
DNAmark™ 20bp	786-852	50ug
DNAmark™ 50bp PLUS	786-853	50ug
DNAmark™ 100bp	786-855	50ug
DNAmark™ 100bp PLUS	786-856	50ug
DNAmark™ 500bp	786-462	50ug
DNAmark™ 1kb PLUS	786-854	50ug
Loading Buffers & Dyes		
2x RNA Loading (Denatured)	R219	1ml
5x RNA Loading (Native)	R220	1ml
6x DNA Loading Buffer	R218	5ml
Evagreen qPCR [20x]	R501	1ml
DNA Stain [500X concentrated]	D161	1ml
Et. Bromide Soln. (10000x)	R221	5ml
LabSafe™ Nucleic Acid Stain	786-409	1ml
ROX Reference Dye [25uM]	R503	1ml
Sybr Green qPCR [20x]	R502	1ml

Peptides, Genes, Oligos & ORF Clones

Custom Peptide Synthesis

Custom synthetic peptides are an important tool in drug discovery & biotechnology research. We are capable of synthesizing difficult sequences of small and large size from milligram to gram levels. Peptides are available from immunograde purity > 70 %, sufficient for generating the antibodies to higher purity >98 %, required in enzymological and biological activity studies and other applications.

Scale: From mg to multi-gram scale
Purity: Crude, desalt, and from 70% to 98% purity
Length: Routine synthesis of peptides ≤ 30 aa. Long peptide synthesis using special chemistry
Modifications: Phosphorylation, methylation, acetylation, biotinylation, etc.
Labels: FITC, rhodamine, TAMRA, etc.
Conjugations: KLH, BSA, etc.
Analysis: Liquid chromatography, mass spectrometry (LC/MS)

***We also offer > 2000 catalog peptides as well >4000 blocking peptide in 1mg & 5mg pack sizes. Please inquire.**

Custom Gene Synthesis

WE offer de novo gene synthesis services for any genes, can synthesize naturally occurring sequences, codon-optimized genes, gene libraries, complex sequences, large sequences, or any other sequence you need for your research.

- Free codon optimization upon request
- Free sub-cloning into standard vector
- 100% accuracy guaranteed
- Strict confidentiality ensured

Custom Oligos/DNA Synthesis (RPC Purified)

Most custom DNA/oligos are merely desalted or deprotected and these are supplied as partially purified; where these oligos include many impurities: Acetonitrile, Pyridine, Iodine, Ethylthio tetrazole, Dichloromethane, Acetic acid, Acrylonitrile, Benzamide, Isobutyramide and the large amounts of truncated Oligos. Our RPC Purified Oligos are purified via the unique Reverse Phase cartridge purification which contains a hydrophobic matrix e.g. C18 silica, the principle of purification being the same as HPLC, this method the cleaved hydrophobic protecting groups and removed small fragment of oligonucleotide which easily washed out by water from reverse phase cartridge. This is an inexpensive alternate to HPLC quality oligo and work better in sensitive applications with 100% guarantee for the PCR or qPCR applications. It gives us immense pleasure to offer the high quality RPC Oligos at the price of desalted oligos to contribute to the scientific research fretrnity.

ORF cDNA Clones

Overexpression of genes and proteins is a valuable component of research in functional genomics, proteomics and systems biology. However, generation of expression-ready open reading frame (ORF) clones often requires multi-step cloning processes, lengthy verification, and sequence analysis. A large number of ORF clones are used for ready expression in vitro and in vivo. These clones come either without tags or with a large number of fusion tag options for customers to choose from. However, designing a tagging strategy requires consideration of many factors, depending on the particular application and the goals of the experiment. They can also be provided in untagged format. A chief advantage of untagged ORFs is that they provide the opportunity to study the protein with its native structure. However, if you require a tag, then the choice of tag will depend heavily on the application. We offer more than 10,000 high quality, premade, expression-ready, full-length verified ORF clones in a Gateway® entry vector and supplied as 10µg plasmid in 200µl Glycerol Stock. Provide the gene name or ID or the accession number to get your expression-ready ORF clone and if your clone is not available in express-ready ORF clone catalogue list than the gene will be offered through custom gene synthesis service.

siRNA & miRNA

siRNA

One of the most powerful tools to down-regulate gene expression in a highly specific and efficient manner. siRNA has become an important approach in analyzing gene function and metabolic pathways in eukaryotic organisms. In recent years, its application in drug target screening and validation has greatly accelerated the process of new drug development.

Custom siRNA

Our custom siRNA provide the most flexible and convenient experience; with supplying almost any lengths, modifications, scales and structures of the desired siRNAs.

- Available for common modifications
- Optimize solution to scale up
- More than forty modification options

Validated siRNA

We provide a complete set of siRNAs for human, mouse, rat with higher quality using siRNA design technologies. The siRNAs are optimized to dramatically reduce off-target effect and enhance stability with our unique optimization system. Normally, each siRNA is a chemically modified duplex with a 19-bp target sequence and 3' overhanging dTdT on each strand.

- Validated knockdown efficiency by qRT-PCR
- 100% guaranteed to gene expression in common cells
- Provided full information about validation

siRNA libraries

We also provide pre-designed, majority of human genome siRNA libraries for the high-throughput RNAi screening. Please inquire for the appropriate library collection that we offer; or order custom library by submitting the list of gene of interest.

- Singnal pathway analysis
- Key factor screen
- Drug target screen
- Drug effects optimization

In-vivo siRNA

Proper chemical modification will change siRNA physical, biochemical, biological and pharmacological properties; resulting in improvement of its stability, specificity and activity in in-vitro and in-vivo applications. The In-vivo siRNAs are chemically modified duplexes intended to use in in-vivo experiments based on its advanced stability, less toxicity, higher efficiency and easier utility. The new design technologies ensures in-vivo siRNAs are capable of being constant in serum more than 48 hours, which allows its application in RNAi based drug development, in-vivo drug target validation and in-vivo gene function investigations.

miRNA

A microRNA (miRNA) is a short endogenous non-coding RNA molecule that binds to its target mRNA and sequentially triggers mRNA degradation and gene silencing. Hence, miRNAs play important roles in various cellular processes including apoptosis, cell division, and proliferation and others. Investigations of miRNAs will help to decipher protein functions and even discover new drugs. We are committed to providing outstanding miRNA products and comprehensive services to facilitate and simplify miRNA investigation.

miRNA qRT-PCR Primers

We offer thousands of miRNA Primer Set for human, mouse and rat. Consists of a specific RT primer, forward primer, and a universal reverse primer to any mature miRNA sequences to meet the various needs of miRNA qRT-PCR assay.

- Specific design, fast and easy to use
- Accurate quantification for less than 10 copies of miRNAs
- Reliable performance for standard protocol

miRNA qRT-PCR Controls

The easy-to-use, universal in human, mouse, rat Control Primer set is designed against appropriate small non-coding RNAs that are ubiquitously expressed in a wide range of cell types, tissues and organisms. It may be used as the internal control in data normalization.

miRNA Mimics & Inhibitor

miRNA Mimics are chemically synthesized double-stranded RNA duplexes; whereas, **miRNA Inhibitors** are chemically synthesized single-stranded antisense oligonucleotides,

Mimics & Inhibitors are ready-to-transfect into cells with the aid of transfection reagent for the miRNA regulation and functional studies. The ready-to-transfect leads to high level accumulation of functional mature miRNAs within hours after transfection. The transfection efficiency can be monitored using appropriate miRNA controls. It is easier, safer and less time-consuming than the vector-based expression system or the virus-based delivery system.

The mimics & inhibitors are available for all human, mouse, and rat miRNAs with a wide range of scale & grade options.

Mimic & Inhibitor Libraries are also available for all human, mice, and rat miRNAs as per the most updated miRBase database release with a wide range of scale & grade options. For other organisms, mimics & inhibitors can be synthesized as per the customer's request.

Mimic & Inhibitor Negative Controls are designed for minimum homology as an indispensable control for miRNA functional studies. The control molecules exhibit minimum homology to any human, mouse or rat miRNAs annotated in the current released of the miRBase database, and no significant homology to the genomes of those three species as established by sequence alignment.

For *In-vivo* miRNA studies, please refer to Agomir & Antagomir miRNA & Negative Controls

ELISA Kits & Antibodies

Ready to use precoated **ImmunoTag™** ELISA KITS are ideal for the quantification of target antigens in tissue extracts, serum and cell culture covering wide range of species eg. human, mouse, rat, bovine, porcine etc

The ELISA kits are offered in 96 well format to detect :-

- ✓ Apoptosis
- ✓ Cardiovascular
- ✓ Cytokines
- ✓ Enzymes
- ✓ Growth Factors
- ✓ Immunity & Infection
- ✓ Metabolism
- ✓ Neuroscience
- ✓ Signal Transduction
- ✓ Small Molecules

ImmunoTag™ Antibodies

ImmunoTag™ offers broad range of high-quality antibodies, against wide range of proteins from various species. ImmunoTag antibodies can be applied to all areas of biological research and drug discovery. All antibodies are thoroughly tested to ensure the highest level of purity and quality.

- ➤ **Primary Antibody** ⇄ Monoclonal / Polyclonal
- ➤ **Secondary Antibody**
- ➤ **Tag Antibody**
- ➤ **Loading Controls**
- ➤ **Immunoglobulin**
- ➤ **Immune Serum**
- ➤ **Whole Serum**

ImmunoTag™ Recombinant Protein

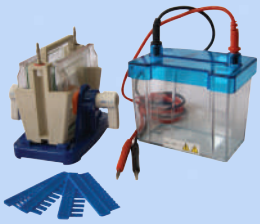
ImmunoTag™ provides wide variety of full length of recombinant proteins expressed in E.coli and other expression systems.

Key Features :

- The Broadest Coverage
- Highly Purified (purity is greater than 96% and endotoxin level blow 0.1 ng/um)
- All our products are animal-free and carrier-free, making them the ultimate resource for your research

www.ImmunoTag.com

BenchTop™ Lab Systems

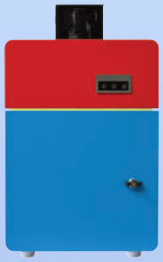














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