



Corning Extra Cellular Matrices, Cytokines and Media Additives

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CORNING

Growth Factors

Epidermal Growth Factors

Epidermal Growth Factor (EGF) is a low-molecular-weight mitogenic protein that stimulates proliferation of a wide variety of cell types *in vitro*. EGF can also be used for receptor, gene expression, wound healing studies, and to culture cells in reduced-serum or serum-free culture systems. Transforming Growth Factor- α (TGF- α) is structurally and functionally related to EGF.

EGF, mouse natural (culture grade)

	Qty.	Cat. No.
	100 μ g	354001
(10 x 100 μ g)	1 mg	356001

EGF, mouse natural (receptor grade)

	Qty.	Cat. No.
	100 μ g	354010
(5 x 100 μ g)	500 μ g	356010

EGF, human recombinant

	Qty.	Cat. No.
	100 μ g	354052
(10 x 100 μ g)	1 mg	356052

Fibroblast Growth Factors

Fibroblast Growth Factors (FGF) are heparin-binding mitogenic proteins that enhance proliferation of a wide variety of cell types under serum-free or serum-reduced conditions. FGF can also be used as a chemotactic or neurotrophic factor and to study wound healing, angiogenesis, and related processes.

bFGF, bovine natural

	Qty.	Cat. No.
	10 μ g	356037

bFGF, human recombinant

	Qty.	Cat. No.
	10 µg	354060
(5 x 10 µg)	50 µg	356060
(10 x 10 µg)	100 µg	356061

Hepatocyte Growth Factor/ Scatter Factor

Hepatocyte Growth Factor/Scatter Factor (HGF/SF) was originally identified and characterized as two different factors, one with growth-stimulating activity (HGF) and the other with scatter factor activity (SF). These two activities were subsequently ascribed to the same factor. HGF/SF is a mesenchymally derived, heparinbinding glycoprotein with mitogenic, motogenic, and morphogenic effects on a variety of cells¹. *In vivo*, HGF/SF exists in two forms, a biologically inactive monomeric molecule (e.g., in human placenta) and a biologically active heterodimer (e.g., in human serum).

HGF/SF can be used in a variety of *in vitro* applications.

As a Mitogenic factor for:

- hepatocytes
- epithelial cells (e.g., intestinal, mammary, kidney, and bronchial epithelial cells)
- endothelial cells
- dermal fibroblasts
- melanocytes
- hematopoietic precursor cells

As a Motogenic factor for:

- endothelial cells and many epithelial cells, including hepatocytes
- several tumor cells enhancing cellular invasiveness

As a Cytotoxic or Cytostatic factor for:

- several tumor cell lines, including hepatocellular carcinomas

As a Morphogenic factor to induce:

- tubule formation by kidney epithelial cells
- ductule formation by mammary epithelial cells

HGF/SF, human recombinant

	Qty.	Cat. No.
	5 µg	354103

Insulin-like Growth Factor

Insulin-like Growth Factors (IGF) are plasma-derived mitogens that are similar to proinsulin. IGF-I and IGF-II both have mitogenic activity for several cell types, including malignant cells. IGF often acts in synergy with other growth factors.

IGF-I, human recombinant (culture)

	Qty.	Cat. No.
	10 µg	354037

Nerve Growth Factors

Both 7S and 2.5S Nerve Growth Factors (NGF) are useful for maintenance and differentiation of sympathetic and sensory neurons, and neuronal cells *in vitro*. NGF also has wound healing activity and can be used in degenerative brain disease and nerve injury models.

7S NGF, mouse natural

	Qty.	Cat. No.
	100 µg	354009

2.5S NGF, mouse natural

	Qty.	Cat. No.
	10 µg	354005
	100 µg	356004
(2 x 500 µg)	1 mg	356005

Platelet-Derived Growth Factor

Platelet-Derived Growth Factor (PDGF), a dimeric glycoprotein composed of two A and/or B chains, is the principal mitogen in serum for mesenchymal cells. Applications include culture of various cell types derived from connective tissue. It can also be used to study chemotaxis, wound healing, and bone repair.

PDGF-BB, human recombinant

	Qty.	Cat. No.
	10 µg	354051
(10 x 10 µg)	100 µg	356051

Transforming Growth Factor

Transforming Growth Factor-® (TGF-®) is a multi-functional protein that plays a central role in the regulation of cell growth and differentiation with either stimulatory or inhibitory effects, depending on the context of its action.

TGF- β , human natural		
	Qty.	Cat. No.
	1 μ g	354039
(5 x 1 μ g)	5 μ g	356039
(5 x 2 μ g)	10 μ g	356040

Vascular Endothelial Growth Factor

VEGF, human recombinant		
	Qty.	Cat. No.
	10 μ g	354107

Lymphokines

IL-1 β , human recombinant		
	Qty.	Cat. No.
	2 μ g	354042

IL-2, human recombinant		
	Qty.	Cat. No.
BRMP* units	10,000	354043
BRMP* units	50,000	356043

IL-2, rat natural		
	Qty.	Cat. No.
BRMP* units	4,000	354110

IL-2, mouse recombinant

	Qty.	Cat. No.
BRMP* units	10,000	356078
BRMP* units	25,000	354078

IL-3, mouse recombinant

	Qty.	Cat. No.
	10 µg	354058

IL-4, human recombinant

	Qty.	Cat. No.
	5 µg	354068

Granulocyte-Macrophage Colony Stimulating Factor

GM-CSF, human recombinant

	Qty.	Cat. No.
	1 µg	354048

Stem Cell Factor

Stem Cell Factor (SCF) is a glycoprotein that plays a key role in hematopoiesis acting both as a positive and negative regulator, often in synergy with other cytokines. It also plays a key role in mast cell development, gametogenesis, and melanogenesis.

SCF, human recombinant

	Qty.	Cat. No.
	10 µg	354105

Tumor Necrosis Factor- α

TNF- α , human recombinant		
	Qty.	Cat. No.
	10 μ g	354066
(5 x 10 μ g)	50 μ g	356066

Media Additives

Nu-Serum™ Serum Replacements

Nu-Serum™ Growth Medium Supplements provide low-protein alternatives to newborn calf, fetal bovine, and other sera routinely used for cell culture. The low-protein content facilitates protein purification, virus production, monoclonal antibody production and screening, and increases the frequency of successful transfection of cells.

Nu-Serum Serum Replacements have been used successfully on a large variety of human and animal cell types, many of which were previously difficult to grow.

Examples include:

- Embryo fibroblasts
- HeLa cells
- Mouse L cells
- BALB/c-3T3 cells
- COS cells
- Kidney epithelial cells
- Respiratory epithelial cells
- Neuronal cells
- Osteoblasts and primary chondrocytes
- Bladder and hepatocellular carcinoma cells
- Pituitary cells
- Schwann cells

Nu-Serum™ Serum Replacements		
	Qty.	Cat. No.
	100 ml	355100
	500 ml	355500

Nu-Serum™ IV Serum Replacements

	Qty.	Cat. No.
	100 ml	355104
	500 ml	355504

T-Cell Culture Supplement

T-Cell Culture Media Supplements are used to promote proliferation and activation (PHA or ConA Supplemented Media) of T-cells and support high-titer HIV production by leukocytes.

T-Cell Culture Supplement with PHA, human (IL-2 culture supplement)

	Qty.	Cat. No.
containing \geq 10,000 BRMP* units	100 ml	354045

T-Cell Culture Supplement without PHA, human (IL-2 culture supplement)

	Qty.	Cat. No.
	50 ml	354117

T-Cell Culture Supplement with ConA, rat (IL-2 culture supplement)

	Qty.	Cat. No.
	100 ml	354115

T-Cell Culture Supplement without ConA, rat (IL-2 culture supplement)

	Qty.	Cat. No.
	100 ml	354116

IL-3 Culture Supplement

IL-3 Culture Supplements are used to culture a variety of IL-3 responsive cells (e.g., mast cells, basophils, natural killer cells, and several hematopoietic precursor cells).

IL-3 Culture Supplement, mouse

	Qty.	Cat. No.
	25 ml	354040

Endothelial Cell Growth Supplement

Endothelial Cell Growth Supplement (ECGS) is a broadly used supplement to culture a variety of cells, particularly endothelial cells. ECGS contains various growth factors (e.g., acidic FGF or ECGF- β).

ECGS

	Qty.	Cat. No.
	15 mg	354006
	100 mg	356006

Bovine Pituitary Extract

Bovine Pituitary Extract (BPE) is a broadly used supplement to culture a variety of epithelial and endothelial cells. BPE contains growth factors (e.g., basic FGF) and hormones.

BPE

	Qty.	Cat. No.
	15 mg	354123
(5 x 15 mg)	75 mg	356123

Mito+ Serum Extender

Mito+ Serum Extender is a concentrated, fully defined formulation of hormones, growth factors (EGF and FGF), and other metabolites (insulin and steroid hormones). It can be used to culture a variety of cells under serum-free or serum-reduced conditions.

Mito+ Serum Extender

	Qty.	Cat. No.
(5 liter equivalent)	5 ml	355006

ITS Universal Culture Supplements

ITS Universal Culture Supplements contain insulin, human transferrin, and selenous acid, the three most universally essential components of defined culture media. They stimulate cell proliferation of a variety of cells under serum-reduced conditions.

ITS Premix		
	Qty.	Cat. No.
(5 liter equivalent)*	5 ml	354351
(20 liter equivalent)**	20 ml	354350

ITS+ Premix		
	Qty.	Cat. No.
(2 liter equivalent)***	20 ml	354352

Formulation: As an aqueous solution containing human recombinant insulin, human transferrin (12.5 mg each), selenous acid (12.5 µg), BSA (2.5 g), and linoleic acid (10.7 mg).

Other Media Additives

Albumin, bovine serum (BSA, delipidized)		
	Qty.	Cat. No.
	10 g	354331

Linoleic Acid/Albumin Complex		
	Qty.	Cat. No.
Linoleic acid/BSA	2.5/500 mg	354227

Hydrocortisone		
	Qty.	Cat. No.
	50 mg	354203

Selenous Acid (sodium salt)		
	Qty.	Cat. No.
	100 mg	354201

Transferrin, human (holo)

	Qty.	Cat. No.
	10 mg	354204
	1 g	354304

Matrigel™ Basement Membrane Matrix

Description	Qty.	Cat. No.
Matrigel™ Basement Membrane Matrix		
Formulation: Dulbecco's Modified Eagle's Medium with 10 µg/ml gentamycin. Typical protein concentrations are between 9-12 mg/ml. Matrigel Matrix is compatible with all culture media.		
	5 ml	356234
	10 ml	354234
	(5x10 ml) 50 ml	356235
Matrigel™ Matrix High Concentration (HC)		
Formulation: Dulbecco's Modified Eagle's Medium with 10 µg/ml gentamycin. Typical protein concentrations are between 18-22 mg/ml. Matrigel Matrix HC is compatible with all culture media.		
	10 ml	354248
Matrigel™ Matrix, Phenol Red-free		
Formulation: Dulbecco's Modified Eagle's Medium (without phenol red) with 50 µg/ml gentamycin. Phenol Red-free Matrigel Matrix is compatible with all culture media.		
Standard Concentration	10 ml	356237
High Concentration	10 ml	354262
Growth Factor Reduced (GFR) Matrigel™ Matrix		
Formulation: Dulbecco's Modified Eagle's Medium with 50 µg/ml gentamycin. GFR Matrigel™ Matrix is compatible with all culture media.		
Purification: Purified by the method of Taub, et al., reducing the level of heparan sulfate proteoglycan and several growth factors (e.g., EGF, bFGF, IGF-1, PDGF, and NGF, but not TGF-β).		
Standard Concentration	5 ml	356230
Standard Concentration	10 ml	354230
High Concentration	10 ml	354263
GFR Matrigel™ Matrix, Phenol Red-free		
Formulation: Dulbecco's Modified Eagle's Medium (without phenol red) with 50 µg/ml gentamycin. Phenol Red-free Matrigel Matrix is compatible with all culture media.		
Purification: Purified by the method of Taub, et al., reducing the level of heparan sulfate proteoglycan and several growth factors (e.g., EGF, bFGF, IGF-1, PDGF, and NGF, but not TGF-β).		
	10 ml	356231

Matrigel™ hESC-qualified Matrix,	5 mL vial	354277
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Dispase

Dispase is a bacillus-derived neutral metalloprotease that is recommended for recovering cells cultured on Matrigel™ Basement Membrane Matrix. Dispase will yield a single cell suspension far more gently and effectively than trypsin, collagenase or other proteolytic enzymes; it will not harm cells harvested for subcultivation or bioassays. In addition, Dispase may be used for tissue dissociation. Dispase cleaves fibronectin, collagen IV, and to a lesser extent collagen I, but it does not cleave collagen V or laminin.

Dispase	(5,000 caseinolytic units) 100 ml	354235
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Cell Recovery Solution

Cell Recovery Solution allows for the recovery of cells cultured on BD Matrigel Basement Membrane Matrix for subsequent biochemical analyses. BD Cell Recovery Solution depolymerizes BD Matrigel Matrix gels without enzymatic digests and lengthy incubation periods at high temperatures. Cells are released without damage, thereby avoiding biochemical changes during incubation and digestion of extracellular portions of cell-surface receptors and adhesion molecules.

Cell Recovery Solution	100 ml	354253
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Human Extracellular Matrix

Human Extracellular Matrix (ECM) is a chromatographically partially purified matrix extract derived from human placenta. It is comprised of laminin, collagen IV, and heparan sulfate proteoglycan. Human ECM promotes attachment, spreading, mitosis, and differentiation of anchorage-dependent epithelial cells, particularly of human origin.

Extracellular Matrix, human	1 mg	354237
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Cell-Tak™ Cell and Tissue Adhesive

Cell-Tak™ Cell and Tissue Adhesive is a formulation of polyphenolic proteins extracted from *Mytilus edulis* (marine mussel). These proteins are the key components of the glue secreted by the mussel to anchor itself to solid substrates in its marine environment. BD Cell-Tak is used to attach cells or tissue sections to many types of surfaces, including plastic, glass, metal, Teflon®, and biological materials. BD Cell-Tak is biocompatible and demonstrates no species specificity.

Cell-Tak™ Cell and Tissue Adhesive	1 mg	354240
	5 mg	354241
	(2 x 5 mg) 10 mg	354242

Collagen, Fibronectin, Laminin, Poly-D-Lysine

Collagen I, bovine	30 mg	354231
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Collagen I, human	0.25 mg	354243
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FIBROGEN Collagen I, human recombinant	0.25mg	354254
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Collagen I, rat tail	100 mg	354236
	(10 x 100 mg) 1g	356236

Collagen I High Concentration (HC), rat tail	100 ml	354249
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Collagen II, bovine	5 mg	354257
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Collagen III, human	0.25 mg	354244
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FIBROGEN Collagen III, human recombinant	0.25 mg	354255
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Collagen IV, human	0.25 mg	354245
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Collagen IV, mouse	1 mg	354233
	(10 x 1 mg) 10 mg	356233

Collagen V, human	0.25 mg	354246
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Collagen VI, human	0.5 mg	354261
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Fibronectin, human	1 mg	354008
	5 mg	356008
	(5 x 5 mg) 25 mg	356009

Laminin (LM), a major component of basement membranes, has numerous biological activities including promotion of cell adhesion, migration, growth, and differentiation, including neurite outgrowth. It can be used as a thin coating on tissue culture surfaces or as a soluble additive to culture medium. LM has been shown in culture to stimulate neurite outgrowth, and promote cell attachment, chemotaxis, and cell differentiation. The Laminin/Entactin Complex High Concentration (HC) is a special formulation that has been developed for three dimensional (3D) culture. Culturing cells in or on gels such as the LM/Entactin Complex will enable the study of specific mechanisms that dictate cell differentiation and functionality. Application examples are endothelial cell tubulogenesis¹ and acinar differentiation^{2,3}. See page 90 for more information on LM.

Description	Qty.	Cat. No.
Laminin, mouse	1 mg	354232
Laminin/Entactin Complex High Concentration, mouse	10.5 mg	354259

Description	Qty.	Cat. No.
Ultrapure Laminin, mouse (entactin-free)	1 mg	354239

Poly-D-Lysine	20 mg	354210
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Vitronectin, human	0.25 mg	354238
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PuraMatrix™ Peptide Hydrogel

PuraMatrix™ Peptide Hydrogel is a synthetic matrix that is used to create defined three-dimensional (3D) microenvironments for a variety of cell culture experiments. To achieve optimal cell growth and differentiation, it is necessary to determine the appropriate mixture of this material and bioactive molecules (e.g., growth factors, extracellular matrix (ECM) proteins, and/or other molecules). PuraMatrix Peptide Hydrogel consists of standard amino acids (1% w/v) and 99% water. Under physiological conditions, the peptide component self-assembles into a 3D hydrogel that exhibits a nanometer scale fibrous structure (average pore size of 50-200 nm).

PuraMatrix™ Peptide Hydrogel	5 ml	354250
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