



Miltenyi Biotec

# MACS® Cytokines and Growth Factors

## Product list

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# MACS<sup>®</sup> Cytokines and Growth Factors

## Product list

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**Miltenyi Biotec offers a broad portfolio of recombinant cytokines, growth factors, and related proteins. These high-quality products for human, mouse, and rat significantly extend our MACS<sup>®</sup> Cell Culture product line. MACS Cytokines and Growth Factors are well-suited for various applications such as cell culture, differentiation studies, and biological assays. Selected products are available in a premium grade format for high, well-defined activity as well as in research grade quality.**

### Quality description

#### Research grade

Research grade is the standard quality for all our products. They are sterile-filtered and have passed an accurate quality control. Generally, endotoxin levels are below 0.1 ng/μg (< 1 EU/μg), and purities are higher than 95%. The biological activity has usually been tested employing appropriate bioassays, and a minimum activity is assured. Otherwise the ED<sub>50</sub> value is given.

#### Premium grade

For demanding applications, selected human cytokines and growth factors are available in premium grade quality having a particular high and well-defined biological activity. They have passed stringent quality control criteria, and the purity is higher than 97%.

The biological activity has been determined after lyophilization in direct comparison with the respective WHO standards. Certificates of analysis stating lot-specific biological activities are available on request. Furthermore, premium grade cytokines display the major characteristics of our line of GMP grade cytokines. Premium grade products are widely used, e.g. for the generation of dendritic cells and the cultivation of stem cells.

#### Cell culture grade

Cell culture grade cytokines and growth factors are lyophilized with DMEM/F12 and fetal bovine serum or human serum albumin. These products are well-suited for certain applications where the direct reconstitution with water is favorable, e.g., applications with small volumes and tests in 96-well plates.

Product name	Alternative names	Product description	Source	Packing unit	Order no.
<b>Human Activin A, research grade</b>	FRP	Recombinant human activin A	Insect cells	5 µg	<b>130-093-805</b>
<b>Human BAFF, research grade</b>	TNFSF13B, BLys	Recombinant human B cell activating factor belonging to the TNF family	<i>E. coli</i>	5 µg	<b>130-093-806</b>
			<i>E. coli</i>	20 µg	<b>130-093-807</b>
<b>Human BD-2, research grade</b>		Recombinant human β-defensin 2	<i>E. coli</i>	20 µg	<b>130-093-809</b>
<b>Human BD-3, research grade</b>		Recombinant human β-defensin 3	<i>E. coli</i>	5 µg	<b>130-093-810</b>
<b>Human BDNF, research grade</b>		Recombinant human brain-derived neurotrophic factor	<i>E. coli</i>	10 µg	<b>130-093-811</b>
<b>Human BMP-2, research grade</b>		Recombinant human bone morphogenetic protein 2	<i>E. coli</i>	2 µg	<b>130-093-814</b>
			<i>E. coli</i>	10 µg	<b>130-093-812</b>
<b>Human BMP-6, research grade</b>		Recombinant human bone morphogenetic protein 6	<i>E. coli</i>	2 µg	<b>130-093-816</b>
			<i>E. coli</i>	10 µg	<b>130-093-817</b>
<b>Human BMP-7, research grade</b>		Recombinant human bone morphogenetic protein 7	CHO cells	10 µg	<b>130-093-818</b>
<b>Human Cardiotrophin-1, research grade</b>	CT-1	Recombinant human cardiotrophin 1	<i>E. coli</i>	2 µg	<b>130-093-819</b>
			<i>E. coli</i>	10 µg	<b>130-093-820</b>
<b>Human CD22 – soluble, research grade</b>	BL-CAM, Siglec-2	Recombinant soluble human CD22	CHO cells	20 µg	<b>130-093-821</b>
<b>Human CD40-Ligand – soluble, research grade</b>	TRAP, CD154, TNFSF5	Recombinant soluble human CD40 ligand	<i>E. coli</i>	10 µg	<b>130-093-822</b>
			<i>E. coli</i>	50 µg	<b>130-093-823</b>
<b>Human CXCL16, research grade</b>	SRPSOX	Recombinant human chemokine ligand CXCL16	<i>E. coli</i>	25 µg	<b>130-093-824</b>
<b>Human EGF, research grade</b>		Recombinant human epidermal growth factor	<i>E. coli</i>	100 µg	<b>130-093-825</b>
			<i>E. coli</i>	500 µg	<b>130-093-826</b>
			<i>E. coli</i>	1.000 µg	<b>130-093-827</b>
<b>Human EG-VEGF, research grade</b>	prokineticin 1	Recombinant human endocrine gland-derived vascular endothelial growth factor	<i>E. coli</i>	10 µg	<b>130-093-828</b>
			<i>E. coli</i>	20 µg	<b>130-093-829</b>
<b>Human Exodus-2, research grade</b>	CCL21, SLC	Recombinant human exodus 2	<i>E. coli</i>	5 µg	<b>130-093-833</b>
<b>Human Fas-Ligand – soluble, research grade</b>	FasL, TNFSF6, CD95L, CD178	Recombinant soluble human Fas ligand	CHO cells	10 µg	<b>130-093-834</b>
<b>Human FGF-1, research grade</b>	acidic FGF, HBGF-1	Recombinant human fibroblast growth factor 1	<i>E. coli</i>	10 µg	<b>130-093-835</b>
			<i>E. coli</i>	50 µg	<b>130-093-836</b>
<b>Human FGF-2, research grade</b>	basic FGF, HBGF-2	Recombinant human fibroblast growth factor 2	<i>E. coli</i>	10 µg	<b>130-093-837</b>
			<i>E. coli</i>	50 µg	<b>130-093-838</b>
<b>Human FGF-2, premium grade</b>	basic FGF, HBGF-2	Recombinant human fibroblast growth factor 2	<i>E. coli</i>	10 µg	<b>130-093-839</b>
			<i>E. coli</i>	50 µg	<b>130-093-840</b>
			<i>E. coli</i>	100 µg	<b>130-093-564</b>
			<i>E. coli</i>	200 µg	<b>130-093-841</b>
			<i>E. coli</i>	1.000 µg	<b>130-093-842</b>
			<i>E. coli</i>	2.000 µg	<b>130-093-843</b>
<b>Human FGF-4, research grade</b>	HBGF-4	Recombinant human fibroblast growth factor 4	<i>E. coli</i>	25 µg	<b>130-093-845</b>
<b>Human FGF-5, research grade</b>	HBGF-5	Recombinant human fibroblast growth factor 5	<i>E. coli</i>	50 µg	<b>130-093-846</b>
<b>Human FGF-6, research grade</b>	HBGF-6	Recombinant human fibroblast growth factor 6	<i>E. coli</i>	25 µg	<b>130-093-847</b>

Product name	Alternative names	Product description	Source	Packing unit	Order no.
Human FGF-7, research grade	KGF, HBGF-7	Recombinant human fibroblast growth factor 7	<i>E. coli</i>	2 µg	130-093-848
				10 µg	130-093-849
Human FGF-10, research grade	KGF-2	Recombinant human fibroblast growth factor 10	<i>E. coli</i>	25 µg	130-093-850
Human Flt3-Ligand, research grade		Recombinant human Flt3 ligand	<i>E. coli</i>	2 µg	130-093-853
				10 µg	130-093-854
				100 µg	130-093-855
				1.000 µg	130-093-856
Human Galectin-1, research grade		Recombinant human galectin 1	<i>E. coli</i>	50 µg	130-093-857
Human Galectin-3, research grade		Recombinant human galectin 3	<i>E. coli</i>	50 µg	130-093-858
Human G-CSF, premium grade		Recombinant human granulocyte colony-stimulating factor <i>Biological activity:</i> ≥5×10 <sup>7</sup> IU/mg; proliferation of NFS-60 cells (NIBSC 88/502)	<i>E. coli</i>	10 µg	130-093-860
				100 µg	130-093-861
				1.000 µg	130-094-265
Human GM-CSF, research grade		Recombinant human granulocyte macrophage colony-stimulating factor <i>Biological activity:</i> ≥2×10 <sup>6</sup> IU/mg; proliferation of TF-1 cells (NIBSC 88/646)	<i>E. coli</i>	10 µg	130-093-862
Human GM-CSF, premium grade		Recombinant human granulocyte macrophage colony-stimulating factor <i>Biological activity:</i> ≥5×10 <sup>6</sup> IU/mg; proliferation of TF-1 cells (NIBSC 88/646)	<i>E. coli</i>	10 µg	130-093-864
				50 µg	130-093-865
				100 µg	130-093-866
				500 µg	130-093-867
				1.000 µg	130-093-868
Human GRO-α, research grade	CXCL1, MGSAα	Recombinant human growth-regulated oncogene α	<i>E. coli</i>	25 µg	130-093-869
Human GRO-β, research grade	CXCL2, MGSAβ, MIP-2α	Recombinant human growth-regulated oncogene β	<i>E. coli</i>	2 µg	130-093-870
Human HGF, research grade	HPTA, SF	Recombinant human hepatocyte growth factor	Insect cells	5 µg	130-093-871
				25 µg	130-093-872
Human IFN-α2a, research grade		Recombinant human interferon α2a	<i>E. coli</i>	20 µg	130-093-873
				100 µg	130-093-874
Human IFN-α2b, research grade		Recombinant human interferon α2b	<i>E. coli</i>	20 µg	130-093-875
				100 µg	130-093-876
Human IFN-β (natural), research grade		Human interferon β	Human fibroblasts	15 µg	130-093-879
Human IFN-β1a, research grade		Recombinant human interferon β1a	CHO cells	2 µg	130-094-116
				10 µg	130-093-877
Human IFN-β1b, research grade		Recombinant human interferon β1b	<i>E. coli</i>	2 µg	130-093-878
Human IFN-γ, research grade		Recombinant human interferon γ	<i>E. coli</i>	50 µg	130-093-880
				100 µg	130-093-882
				1.000 µg	130-093-883
Human IGF-1, research grade	IGF-I	Recombinant human insulin-like growth factor 1	<i>E. coli</i>	50 µg	130-093-885
				100 µg	130-093-886
				1.000 µg	130-093-887
Human IGF-2, research grade	IGF-II	Recombinant human insulin-like growth factor 2	<i>E. coli</i>	10 µg	130-093-888
				50 µg	130-093-889
				1.000 µg	130-093-890

Product name	Alternative names	Product description	Source	Packing unit	Order no.
<b>Human IGF-BP3, research grade</b>	IBP-3	Recombinant human IGF-binding protein 3	<i>E. coli</i>	25 µg	<b>130-093-891</b>
<b>Human IGF-BP5, research grade</b>	IBP-5	Recombinant human IGF-binding protein 5	<i>E. coli</i>	25 µg	<b>130-093-892</b>
<b>Human IL-1α, research grade</b>		Recombinant human interleukin 1α	<i>E. coli</i>	2 µg	<b>130-093-893</b>
			<i>E. coli</i>	10 µg	<b>130-093-894</b>
<b>Human IL-1β, research grade</b>		Recombinant human interleukin 1β <i>Biological activity:</i> ≥1×10 <sup>7</sup> IU/mg; proliferation of D10.G4.1 cells (NIBSC 86/680)	<i>E. coli</i>	10 µg	<b>130-093-895</b>
			<i>E. coli</i>	1.000 µg	<b>130-093-896</b>
<b>Human IL-1β, premium grade</b>		Recombinant human interleukin 1β <i>Biological activity:</i> ≥3×10 <sup>7</sup> IU/mg; proliferation of D10.G4.1 cells (NIBSC 86/680)	<i>E. coli</i>	10 µg	<b>130-093-897</b>
			<i>E. coli</i>	25 µg	<b>130-093-563</b>
			<i>E. coli</i>	100 µg	<b>130-093-898</b>
			<i>E. coli</i>	1.000 µg	<b>130-093-899</b>
<b>Human IL-1ra, research grade</b>		Recombinant human interleukin 1 receptor antagonist	<i>E. coli</i>	10 µg	<b>130-093-900</b>
<b>Human IL-2, research grade</b>		Recombinant human interleukin 2	<i>E. coli</i>	5 µg	<b>130-093-901</b>
			<i>E. coli</i>	50 µg	<b>130-093-903</b>
<b>Human IL-2 (v126), research grade</b>	aldesleukin	Recombinant human interleukin 2 (variant in position 126)	<i>E. coli</i>	5 µg	<b>130-093-906</b>
			<i>E. coli</i>	50 µg	<b>130-093-907</b>
<b>Human IL-3, research grade</b>		Recombinant human interleukin 3 <i>Biological activity:</i> ≥1×10 <sup>5</sup> IU/mg; proliferation of TF-1 cells (NIBSC 91/510)	<i>E. coli</i>	10 µg	<b>130-093-908</b>
			<i>E. coli</i>	25 µg	<b>130-093-909</b>
			<i>E. coli</i>	4×25 µg	<b>130-094-193</b>
			<i>E. coli</i>	1.000 µg	<b>130-093-911</b>
<b>Human IL-4, research grade</b>		Recombinant human interleukin 4 <i>Biological activity:</i> ≥2×10 <sup>6</sup> IU/mg; proliferation of TF-1 cells (NIBSC 88/646)	<i>E. coli</i>	2 µg	<b>130-093-914</b>
			<i>E. coli</i>	5 µg	<b>130-093-915</b>
			<i>E. coli</i>	25 µg	<b>130-093-917</b>
			<i>E. coli</i>	100 µg	<b>130-094-117</b>
			<i>E. coli</i>	500 µg	<b>130-094-118</b>
<b>Human IL-4, cell culture grade</b>		Recombinant human interleukin 4 <i>Biological activity:</i> ≥5×10 <sup>6</sup> IU/mg; proliferation of TF-1 cells (NIBSC 88/646)	<i>E. coli</i>	~ 5 µg	<b>130-093-918</b>
<b>Human IL-4, premium grade</b>		Recombinant human interleukin 4 <i>Biological activity:</i> ≥5×10 <sup>6</sup> IU/mg; proliferation of TF-1 cells (NIBSC 88/646)	<i>E. coli</i>	5 µg	<b>130-093-919</b>
			<i>E. coli</i>	10 µg	<b>130-093-920</b>
			<i>E. coli</i>	25 µg	<b>130-093-921</b>
			<i>E. coli</i>	100 µg	<b>130-093-922</b>
			<i>E. coli</i>	1.000 µg	<b>130-093-924</b>
<b>Human IL-5, research grade</b>		Recombinant human interleukin 5	<i>E. coli</i>	2 µg	<b>130-093-926</b>
			<i>E. coli</i>	10 µg	<b>130-093-927</b>
<b>Human IL-6, research grade</b>		Recombinant human interleukin 6 <i>Biological activity:</i> ≥2×10 <sup>7</sup> IU/mg; proliferation of B9 hybridoma cells (NIBSC 89/548)	<i>E. coli</i>	5 µg	<b>130-093-928</b>
			<i>E. coli</i>	25 µg	<b>130-093-929</b>
<b>Human IL-6, premium grade</b>		Recombinant human interleukin 6 <i>Biological activity:</i> ≥5×10 <sup>7</sup> IU/mg; proliferation of B9 hybridoma cells (NIBSC 89/548)	<i>E. coli</i>	25 µg	<b>130-093-931</b>
			<i>E. coli</i>	100 µg	<b>130-093-932</b>
			<i>E. coli</i>	500 µg	<b>130-093-933</b>
			<i>E. coli</i>	1.000 µg	<b>130-093-934</b>
<b>Human IL-7, research grade</b>		Recombinant human interleukin 7	<i>E. coli</i>	2 µg	<b>130-093-936</b>
			<i>E. coli</i>	10 µg	<b>130-093-937</b>
			<i>E. coli</i>	100 µg	<b>130-093-939</b>
			<i>E. coli</i>	1.000 µg	<b>130-093-940</b>
<b>Human IL-8 (72 aa), research grade</b>	CXCL8	Recombinant human interleukin 8 (isoform containing 72 amino acids)	<i>E. coli</i>	5 µg	<b>130-093-942</b>
			<i>E. coli</i>	25 µg	<b>130-093-943</b>

Product name	Alternative names	Product description	Source	Packing unit	Order no.
<b>Human IL-8 (77 aa), research grade</b>	CXCL8	Recombinant human interleukin 8 (isoform containing 77 amino acids)	<i>E. coli</i>	25 µg	<b>130-093-944</b>
<b>Human IL-9, research grade</b>		Recombinant human interleukin 9	<i>E. coli</i>	2 µg	<b>130-093-945</b>
			<i>E. coli</i>	10 µg	<b>130-093-946</b>
<b>Human IL-10, research grade</b>		Recombinant human interleukin 10	<i>E. coli</i>	2 µg	<b>130-093-947</b>
			<i>E. coli</i>	10 µg	<b>130-093-948</b>
<b>Human IL-10, research grade</b>		Recombinant human interleukin 10	CHO cells	10 µg	<b>130-093-949</b>
<b>Human IL-11, research grade</b>		Recombinant human interleukin 11	<i>E. coli</i>	10 µg	<b>130-093-950</b>
<b>Human IL-12, research grade</b>		Recombinant human interleukin 12	CHO cells	2 µg	<b>130-093-951</b>
			CHO cells	10 µg	<b>130-093-952</b>
<b>Human IL-13, research grade</b>		Recombinant human interleukin 13	<i>E. coli</i>	2 µg	<b>130-093-953</b>
			<i>E. coli</i>	10 µg	<b>130-093-954</b>
<b>Human IL-15, research grade</b>		Recombinant human interleukin 15	<i>E. coli</i>	10 µg	<b>130-093-955</b>
			<i>E. coli</i>	100 µg	<b>130-093-956</b>
			<i>E. coli</i>	1.000 µg	<b>130-093-957</b>
<b>Human IL-17, research grade</b>	IL-17A	Recombinant human interleukin 17	<i>E. coli</i>	5 µg	<b>130-093-958</b>
			<i>E. coli</i>	25 µg	<b>130-093-959</b>
<b>Human IL-19, research grade</b>		Recombinant human interleukin 19	<i>E. coli</i>	10 µg	<b>130-093-960</b>
<b>Human MCP-1, research grade</b>	CCL2, MCAF	Recombinant human monocyte chemotactic protein 1	<i>E. coli</i>	5 µg	<b>130-093-961</b>
			<i>E. coli</i>	20 µg	<b>130-093-962</b>
<b>Human M-CSF, research grade</b>		Recombinant human macrophage colony-stimulating factor	<i>E. coli</i>	10 µg	<b>130-093-963</b>
			<i>E. coli</i>	500 µg	<b>130-093-964</b>
<b>Human MIP-3α, research grade</b>	CCL20, Exodus-1	Recombinant human macrophage inflammatory protein 3α	<i>E. coli</i>	5 µg	<b>130-093-965</b>
			<i>E. coli</i>	20 µg	<b>130-093-966</b>
<b>Human MIP-3β, research grade</b>	CCL19, Exodus-3, ELC	Recombinant human macrophage inflammatory protein 3β	<i>E. coli</i>	5 µg	<b>130-093-967</b>
			<i>E. coli</i>	20 µg	<b>130-093-968</b>
			<i>E. coli</i>	100 µg	<b>130-093-969</b>
<b>Human NGF-β, research grade</b>	β-NGF	Recombinant human nerve growth factor β	CHO cells	5 µg	<b>130-093-971</b>
			CHO cells	20 µg	<b>130-093-972</b>
<b>Human NT-3, research grade</b>	NTF-3, HDNF	Recombinant human neurotrophin 3	<i>E. coli</i>	10 µg	<b>130-093-973</b>
<b>Human NT-4, research grade</b>	NTF-4	Recombinant human neurotrophin 4	<i>E. coli</i>	10 µg	<b>130-093-974</b>
<b>Human Oncostatin M, research grade</b>	OSM	Recombinant human oncostatin M	<i>E. coli</i>	2 µg	<b>130-093-975</b>
			<i>E. coli</i>	10 µg	<b>130-093-976</b>
<b>Human OPG, research grade</b>	TNFRSF11B, TR1	Recombinant soluble human osteoprotegerin	Yeast	50 µg	<b>130-094-119</b>
<b>Human PDGF-AA, research grade</b>		Recombinant human platelet-derived growth factor AA	<i>E. coli</i>	2 µg	<b>130-093-977</b>
			<i>E. coli</i>	10 µg	<b>130-093-978</b>
<b>Human PDGF-AB, research grade</b>		Recombinant human platelet-derived growth factor AB	<i>E. coli</i>	10 µg	<b>130-093-979</b>
<b>Human PDGF-BB, research grade</b>		Recombinant human platelet-derived growth factor BB	<i>E. coli</i>	2 µg	<b>130-093-980</b>
			<i>E. coli</i>	10 µg	<b>130-093-982</b>
<b>Human PDGF-BB, research grade</b>		Recombinant human platelet-derived growth factor BB	Yeast	2 µg	<b>130-093-981</b>
			Yeast	10 µg	<b>130-093-983</b>
			Yeast	50 µg	<b>130-093-984</b>
<b>Human Prolactin, research grade</b>	mammotropin	Recombinant human prolactin	<i>E. coli</i>	50 µg	<b>130-093-985</b>
<b>Human RANK-Ligand – soluble, research grade</b>	TNFSF11, TRANCE, ODF	Recombinant soluble human receptor activator of NF-κB ligand	<i>E. coli</i>	2 µg	<b>130-093-987</b>
			<i>E. coli</i>	10 µg	<b>130-093-988</b>

Product name	Alternative names	Product description	Source	Packing unit	Order no.
<b>Human RANTES, research grade</b>	CCL5	Recombinant human RANTES	<i>E. coli</i>	5 µg	<b>130-093-989</b>
<b>Human SCF, research grade</b>	c-kit ligand, steel factor, MGF	Recombinant human stem cell factor	<i>E. coli</i>	2 µg	<b>130-093-990</b>
			<i>E. coli</i>	10 µg	<b>130-093-991</b>
			<i>E. coli</i>	50 µg	<b>130-093-992</b>
			<i>E. coli</i>	100 µg	<b>130-093-993</b>
			<i>E. coli</i>	1.000 µg	<b>130-094-303</b>
<b>Human SCGF-α, research grade</b>		Recombinant human stem cell growth factor α	<i>E. coli</i>	10 µg	<b>130-093-994</b>
<b>Human SCGF-β, research grade</b>		Recombinant human stem cell growth factor β	<i>E. coli</i>	10 µg	<b>130-093-995</b>
<b>Human SDF-1α, research grade</b>	CXCL12	Recombinant human stromal cell-derived factor 1α	<i>E. coli</i>	10 µg	<b>130-093-996</b>
			<i>E. coli</i>	100 µg	<b>130-093-997</b>
			<i>E. coli</i>	1.000 µg	<b>130-093-998</b>
<b>Human TARC, research grade</b>	CCL17	Recombinant human thymus and activation-regulated chemokine	<i>E. coli</i>	20 µg	<b>130-093-999</b>
<b>Human TGF-α, research grade</b>		Recombinant human transforming growth factor α	<i>E. coli</i>	100 µg	<b>130-094-000</b>
<b>Human TGF-β1, research grade</b>		Recombinant human transforming growth factor β1	<i>E. coli</i>	5 µg, liquid	<b>130-094-002</b>
<b>Human TGF-β2, research grade</b>		Recombinant human transforming growth factor β2	Insect cells	1 µg	<b>130-094-004</b>
			Insect cells	5 µg	<b>130-094-005</b>
<b>Human TGF-β3, research grade</b>		Recombinant human transforming growth factor β3	<i>E. coli</i>	1 µg, liquid	<b>130-094-006</b>
			<i>E. coli</i>	5 µg, liquid	<b>130-094-007</b>
			<i>E. coli</i>	20 µg, liquid	<b>130-094-008</b>
<b>Human TNF-α, research grade</b>	TNFSF2	Recombinant human tumor necrosis factor α  <i>Biological activity:</i> ≥2×10 <sup>7</sup> IU/mg; proliferation of L-929 cells (NIBSC 88/786)	Yeast	10 µg	<b>130-094-015</b>
			Yeast	50 µg	<b>130-094-017</b>
			Yeast	100 µg	<b>130-094-018</b>
			Yeast	750 µg	<b>130-094-019</b>
			Yeast	1.000 µg	<b>130-094-020</b>
<b>Human TNF-α, premium grade</b>	TNFSF2	Recombinant human tumor necrosis factor α  <i>Biological activity:</i> ≥4×10 <sup>7</sup> IU/mg; proliferation of L-929 cells (NIBSC 88/786)	Yeast	10 µg	<b>130-094-022</b>
			Yeast	50 µg	<b>130-094-023</b>
			Yeast	100 µg	<b>130-094-024</b>
<b>Human TNF-α, premium grade</b>	TNFSF2	Recombinant human tumor necrosis factor α  <i>Biological activity:</i> ≥4×10 <sup>7</sup> IU/mg; proliferation of L-929 cells (NIBSC 88/786)	<i>E. coli</i>	10 µg	<b>130-094-014</b>
<b>Human TPO, research grade</b>	MDGF	Recombinant human thrombopoietin	<i>E. coli</i>	2 µg	<b>130-094-010</b>
			<i>E. coli</i>	10 µg	<b>130-094-011</b>
			<i>E. coli</i>	100 µg	<b>130-094-013</b>
<b>Human TPO, research grade</b>	MDGF	Recombinant human thrombopoietin	CHO cells	10 µg	<b>130-094-012</b>
<b>Human TRAIL, research grade</b>	Apo2L, TNFSF10	Recombinant human TNF-related apoptosis inducing ligand	<i>E. coli</i>	10 µg	<b>130-094-025</b>
			<i>E. coli</i>	50 µg	<b>130-094-026</b>
<b>Human TRAIL Receptor-1 – soluble, research grade</b>	DR4, TNFRSF10A	Recombinant soluble human TNF-related apoptosis inducing ligand receptor 1	<i>E. coli</i>	20 µg	<b>130-094-027</b>
			<i>E. coli</i>	50 µg	<b>130-094-352</b>
<b>Human TRAIL Receptor-2 – soluble, research grade</b>	DR5, TNFRSF10B	Recombinant soluble human TNF-related apoptosis inducing ligand receptor 2	<i>E. coli</i>	20 µg	<b>130-094-028</b>
			<i>E. coli</i>	50 µg	<b>130-094-353</b>

Product name	Alternative names	Product description	Source	Packing unit	Order no.
<b>Human VEGF (121 aa), research grade</b>		Recombinant human vascular endothelial growth factor	Insect cells	5 µg	<b>130-094-029</b>
			Insect cells	100 µg	<b>130-094-030</b>
<b>Human VEGF (165 aa), research grade</b>		Recombinant human vascular endothelial growth factor	Insect cells	5 µg	<b>130-094-031</b>
			Insect cells	20 µg	<b>130-094-033</b>
			Insect cells	100 µg	<b>130-094-034</b>
			Insect cells	500 µg	<b>130-094-035</b>

## Mouse Cytokines & Growth Factors

<b>Mouse EGF</b>		Recombinant mouse epidermal growth factor	<i>E. coli</i>	100 µg	<b>130-094-036</b>
			<i>E. coli</i>	500 µg	<b>130-094-037</b>
<b>Mouse Flt3-Ligand</b>		Recombinant mouse Flt3 Ligand	<i>E. coli</i>	10 µg	<b>130-094-038</b>
<b>Mouse G-CSF</b>		Recombinant mouse granulocyte colony-stimulating factor	<i>E. coli</i>	2 µg	<b>130-094-039</b>
			<i>E. coli</i>	10 µg	<b>130-094-040</b>
			<i>E. coli</i>	100 µg	<b>130-094-041</b>
<b>Mouse GM-CSF</b>		Recombinant mouse granulocyte macrophage colony-stimulating factor	<i>E. coli</i>	2 µg	<b>130-094-042</b>
			<i>E. coli</i>	10 µg	<b>130-094-043</b>
			<i>E. coli</i>	100 µg	<b>130-094-044</b>
<b>Mouse Gro-α/KC</b>	CXCL1	Recombinant human growth-regulated oncogene α / keratinocyte chemoattractant	<i>E. coli</i>	5 µg	<b>130-094-045</b>
			<i>E. coli</i>	20 µg	<b>130-094-046</b>
<b>Mouse IFN-α</b>		Recombinant mouse interferon α	HEK293 cells	200 µL, liquid	<b>130-093-131</b>
			HEK293 cells	1 mL, liquid	<b>130-093-130</b>
<b>Mouse IFN-γ</b>		Recombinant mouse interferon γ	<i>E. coli</i>	20 µg	<b>130-094-047</b>
			<i>E. coli</i>	100 µg	<b>130-094-048</b>
			<i>E. coli</i>	1.000 µg	<b>130-094-049</b>
<b>Mouse IL-1α</b>		Recombinant mouse interleukin 1α	<i>E. coli</i>	2 µg	<b>130-094-050</b>
			<i>E. coli</i>	10 µg	<b>130-094-051</b>
<b>Mouse IL-1β</b>		Recombinant mouse interleukin 1β	<i>E. coli</i>	2 µg	<b>130-094-052</b>
			<i>E. coli</i>	10 µg	<b>130-094-053</b>
<b>Mouse IL-2</b>		Recombinant mouse interleukin 2	<i>E. coli</i>	5 µg	<b>130-094-054</b>
			<i>E. coli</i>	20 µg	<b>130-094-055</b>
<b>Mouse IL-3</b>		Recombinant mouse interleukin 3	<i>E. coli</i>	2 µg	<b>130-094-056</b>
			<i>E. coli</i>	10 µg	<b>130-094-057</b>
<b>Mouse IL-4</b>		Recombinant mouse interleukin 4	<i>E. coli</i>	2 µg	<b>130-094-060</b>
			<i>E. coli</i>	10 µg	<b>130-094-061</b>
			<i>E. coli</i>	100 µg	<b>130-094-063</b>
			<i>E. coli</i>	1.000 µg	<b>130-094-064</b>
<b>Mouse IL-6</b>		Recombinant mouse interleukin 6	<i>E. coli</i>	10 µg	<b>130-094-065</b>
<b>Mouse IL-7</b>		Recombinant mouse interleukin 7	<i>E. coli</i>	10 µg	<b>130-094-066</b>
<b>Mouse IL-10</b>		Recombinant mouse interleukin 10	<i>E. coli</i>	2 µg	<b>130-094-067</b>
			<i>E. coli</i>	10 µg	<b>130-094-068</b>
<b>Mouse IL-12</b>		Recombinant mouse interleukin 12	Insect cells	10 µg	<b>130-094-069</b>
<b>Mouse IL-13</b>		Recombinant mouse interleukin 13	<i>E. coli</i>	10 µg	<b>130-094-070</b>

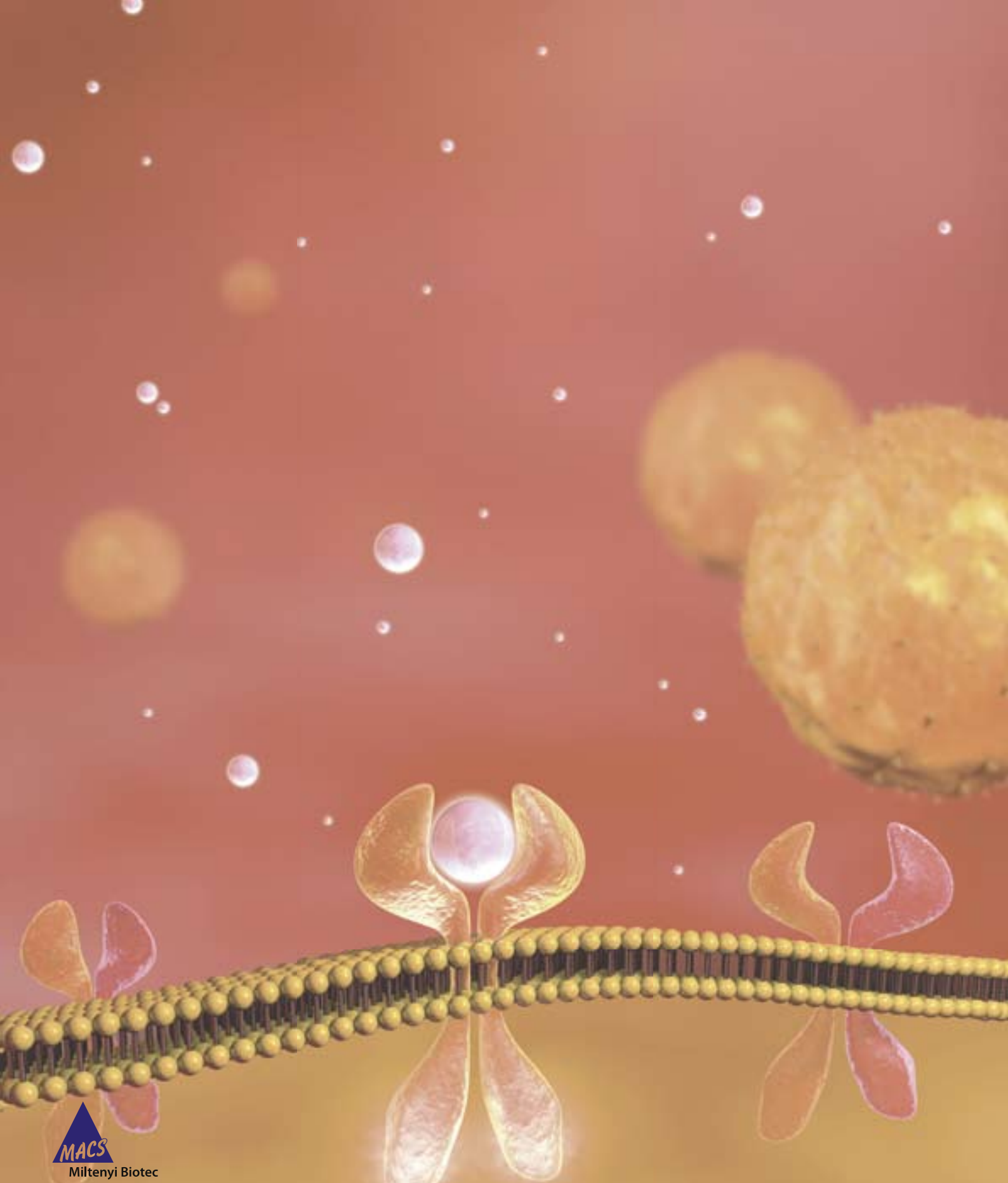
Product name	Alternative names	Product description	Source	Packing unit	Order no.
<b>Mouse IL-15</b>		Recombinant mouse interleukin 15	<i>E. coli</i>	2 µg	<b>130-094-071</b>
			<i>E. coli</i>	10 µg	<b>130-094-072</b>
<b>Mouse IP-10</b>	CXCL10	Recombinant mouse interferon-inducible protein 10	<i>E. coli</i>	5 µg	<b>130-094-073</b>
<b>Mouse M-CSF</b>		Recombinant mouse macrophage colony-stimulating factor	<i>E. coli</i>	10 µg	<b>130-094-129</b>
<b>Mouse MIG</b>	CXCL9	Recombinant mouse monokine induced by interferon γ	<i>E. coli</i>	20 µg	<b>130-094-128</b>
<b>Mouse MIP-3β</b>	CCL19, Exodus-3, ELC	Recombinant mouse macrophage inflammatory protein 3β	<i>E. coli</i>	5 µg	<b>130-094-120</b>
			<i>E. coli</i>	20 µg	<b>130-094-074</b>
			<i>E. coli</i>	100 µg	<b>130-094-075</b>
<b>Mouse RANK-Ligand – soluble</b>	TNFSF11	Recombinant soluble mouse receptor activator of NF-κB ligand	<i>E. coli</i>	10 µg	<b>130-094-076</b>
<b>Mouse RANTES</b>	CCL5	Recombinant mouse RANTES	<i>E. coli</i>	20 µg	<b>130-094-077</b>
<b>Mouse SCF</b>	c-kit ligand, steel factor, MGF	Recombinant mouse stem cell factor	<i>E. coli</i>	2 µg	<b>130-094-078</b>
			<i>E. coli</i>	10 µg	<b>130-094-079</b>
			<i>E. coli</i>	100 µg	<b>130-094-080</b>
<b>Mouse SDF-1α</b>	CXCL12	Recombinant mouse stromal cell-derived factor 1α	<i>E. coli</i>	2 µg	<b>130-094-081</b>
<b>Mouse TNF-α</b>	TNFSF2	Recombinant mouse tumor necrosis factor α	Strepto- myces	5 µg	<b>130-094-084</b>
			Strepto- myces	20 µg	<b>130-094-085</b>
<b>Mouse TPO</b>	MDGF	Recombinant mouse thrombopoietin	<i>E. coli</i>	2 µg	<b>130-094-082</b>
			<i>E. coli</i>	10 µg	<b>130-094-083</b>
<b>Mouse VEGF (164 aa)</b>		Recombinant mouse vascular endothelial growth factor	Insect cells	5 µg	<b>130-094-086</b>
			Insect cells	20 µg	<b>130-094-087</b>

## Rat Cytokines & Growth factors

<b>Rat IFN-γ</b>		Recombinant rat interferon γ	<i>E. coli</i>	100 µg	<b>130-094-089</b>
<b>Rat IL-2</b>		Recombinant rat interleukin 2	<i>E. coli</i>	5 µg	<b>130-094-121</b>
			<i>E. coli</i>	20 µg	<b>130-094-090</b>
<b>Rat IL-4</b>		Recombinant rat interleukin 4	<i>E. coli</i>	2 µg	<b>130-094-091</b>
			<i>E. coli</i>	10 µg	<b>130-094-122</b>
<b>Rat VEGF-C</b>		Recombinant rat vascular endothelial growth factor c	Insect cells	10 µg	<b>130-094-092</b>
<b>Rat VEGF-C (C152S)</b>		Recombinant rat vascular endothelial growth factor c (Cys152Ser substitution)	Insect cells	5 µg	<b>130-094-093</b>

## Accessories: MACS® Basic Media

<b>DMEM</b>				500 mL	<b>130-091-437</b>
<b>DMEM with stable glutamine</b>				500 mL	<b>130-091-438</b>
<b>RPMI 1640</b>				500 mL	<b>130-091-440</b>
<b>RPMI 1640 with stable glutamine</b>				500 mL	<b>130-091-439</b>



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