

Recombinant proteins

2024 product list

PeptoTech cytokines, antibodies, and ELISA kits

Contents

GMP cytokines	3
<hr/>	
Animal-free cytokines	6
<hr/>	
Research use only (RUO) cytokines	9
<hr/>	
Antibodies	20
<hr/>	
ELISA kits	32
<hr/>	
Technical information	
QC testing requirements	37
Chemokine nomenclature	38
FGF family	39
TGF- β superfamily	40
Neurotrophin/neuropoietic cytokines	42
TNF nomenclature	43
VEGF/PDGF family	44
Antagonists of TGF- β ligands	45
General characteristics of plasma lipoproteins	45
Classification of apoproteins	45
Technical FAQs	
RUO cytokines	46
GMP cytokines	47
ELISA	47
Western transfer	48
Antibodies	49
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PeproTech is now part of Thermo Fisher Scientific and these products are now sold under the Invitrogen and Gibco brands.

GMP cytokines

Helping unlock the promise of cellular therapies and regenerative medicine

In response to our clients' needs, and the requirements of the cell and gene therapy markets, Gibco™ PeproTech™ products are now manufactured in our state-of-the-art manufacturing facility in Cranbury, New Jersey.

The rapidly evolving field of regenerative medicine offers exciting opportunities to develop new solutions for an array of diseases, injuries, and genetic disorders. With the recent addition of the Cranbury manufacturing facility, Thermo Fisher Scientific is able to meet the demand of the advancing markets in cell, gene, and tissue therapies. This 65,000 sq. ft. facility has ample space for GMP cleanrooms and supports the manufacturing of our bacterially expressed GMP products and expansion into cell culture-derived GMP products.

Gibco™ PeproTech™ PeproGMP™ recombinant proteins are manufactured for use as ancillary materials by applying applicable principles of GMP and quality control requirements from the USP (United States Pharmacopeia) Chapter <1043> Ancillary Materials for Cell, Gene, and Tissue-Engineered Products.

- Controlled and certified ISO 7 and ISO 8 cleanrooms
- Qualification and validation program
- Materials management (including supplier qualification, and controlled and qualified raw materials)
- 100% traceability
- Personnel training program
- Environmental monitoring
- Equipment calibration and maintenance
- Rigorous quality control program
- Documentation control and records
- Stability program
- Controlled processes
- QA review and support
- Master quality and supply agreement
- Aseptic techniques and sterile filtration
- Management review
- Procedures for complaints and recalls



PeproTech PeproGMP cytokines

Description	Cat. No.	Quantity
PeproTech PeproGMP Human Activin A	GMP120-14E-50UG	50 µg
	GMP120-14E-100UG	100 µg
PeproTech PeproGMP Human BMP-4	GMP120-05ET-50UG	50 µg
	GMP120-05ET-100UG	100 µg
PeproTech PeproGMP Human IL-2	GMP200-02-50UG	50 µg
	GMP200-02-100UG	100 µg
	GMP200-02-1MG	1 mg
PeproTech PeproGMP Human IL-3	GMP200-03-50UG	50 µg
	GMP200-03-100UG	100 µg
	GMP200-03-1MG	1 mg
PeproTech PeproGMP Human IL-6	GMP200-06-10UG	10 µg
	GMP200-06-100UG	100 µg
PeproTech PeproGMP Human IL-7	GMP200-07-50UG	50 µg
	GMP200-07-100UG	100 µg
PeproTech PeproGMP Human IL-15	GMP200-15-50UG	50 µg
	GMP200-15-100UG	100 µg
	GMP200-15-1MG	1 mg
PeproTech PeproGMP Human IL-21	GMP200-21-50UG	50 µg
	GMP200-21-100UG	100 µg
	GMP200-21-1MG	1 mg
PeproTech PeproGMP Human EGF	GMP100-15-100UG	100 µg
	GMP100-15-500UG	500 µg
	GMP100-15-1MG	1 mg
PeproTech PeproGMP Human FGF-Basic	GMP100-18B-25UG	25 µg
	GMP100-18B-100UG	100 µg
	GMP100-18B-1MG	1 mg
PeproTech PeproGMP Human Flt3-Ligand	GMP300-19-50UG	50 µg
	GMP300-19-100UG	100 µg
	GMP300-19-1MG	1 mg
PeproTech PeproGMP Human Heregulin β-1	GMP100-03-50UG	50 µg
	GMP100-03-100UG	100 µg
	GMP100-03-1MG	1 mg
PeproTech PeproGMP Human KGF	GMP100-19-50UG	50 µg
	GMP100-19-100UG	100 µg
	GMP100-19-1MG	1 mg
PeproTech PeproGMP Human LIF	GMP300-05-50UG	50 µg
	GMP300-05-100UG	100 µg
PeproTech PeproGMP Human PDGF-AA	GMP100-13A-50UG	50 µg
	GMP100-13A-100UG	100 µg
PeproTech PeproGMP Human SCF	GMP300-07-50UG	50 µg
	GMP300-07-100UG	100 µg
	GMP300-07-1MG	1 mg
PeproTech PeproGMP Human TPO	GMP300-18-50UG	50 µg
	GMP300-18-100UG	100 µg
PeproTech PeproGMP Human VEGF ₁₆₅	GMP100-20-50UG	50 µg
	GMP100-20-100UG	100 µg
	GMP100-20-1MG	1 mg

We are continually adding new GMP products. Please contact PeproTech.GMP@thermofisher.com for our most up-to-date list of products.

Quality assurance and quality control

Our quality management system, from management of raw materials and equipment to facilities maintenance (environmental monitoring), manufacturing processes, audits, and inspection processes, is in compliance with relevant US FDA GMPs and all applicable regulatory and standards requirements.

We perform extensive quality control testing to verify that PeproTech PeproGMP cytokines meet rigorous standards for purity, identity, safety, activity, and consistency.

We would love to share more about PeproTech PeproGMP cytokines with you. Please contact our quality assurance department at PeproTech.GMP@thermofisher.com for more information.

Cytokine packages

Gibco PeproTech dendritic cell cytokine packages

Description	Description
<p>Human Dendritic Cell Cytokine Package Cat. No. HDC</p> <p>Includes 2 vials:</p> <ul style="list-style-type: none"> • Human IL-4, 100 µg • Human GM-CSF, 100 µg 	<p>Animal-Free Human Dendritic Cell Cytokine Package Cat. No. AF-HDC</p> <p>Includes 2 vials:</p> <ul style="list-style-type: none"> • Animal-Free Human IL-4, 100 µg • Animal-Free Human GM-CSF, 100 µg
<p>Murine Dendritic Cell Cytokine Package Cat. No. MDC</p> <p>Includes 2 vials:</p> <ul style="list-style-type: none"> • Murine IL-4, 100 µg • Murine GM-CSF, 100 µg 	<p>Animal-Free Murine Dendritic Cell Cytokine Package Cat. No. AF-MDC</p> <p>Includes 2 vials:</p> <ul style="list-style-type: none"> • Animal-Free Murine IL-4, 100 µg • Animal-Free Murine GM-CSF, 100 µg

Gibco PeproTech hematopoietic stem cell expansion cytokine packages

Description	Description
<p>Human Hematopoietic Stem Cell Expansion Cytokine Package Cat. No. HHSC3</p> <p>Includes 4 vials:</p> <ul style="list-style-type: none"> • Human Flt3-Ligand, 100 µg • Human SCF, 100 µg • Human TPO, 100 µg • Human IL-3, 10 µg 	<p>Animal-Free Human Hematopoietic Stem Cell Expansion Cytokine Package Cat. No. AF-HHSC3</p> <p>Includes 4 vials:</p> <ul style="list-style-type: none"> • Animal-Free Human Flt3-Ligand, 100 µg • Animal-Free Human SCF, 100 µg • Animal-Free Human TPO, 100 µg • Animal-Free Human IL-3, 10 µg
<p>Human Hematopoietic Stem Cell Expansion Cytokine Package Cat. No. HHSC6</p> <p>Includes 4 vials:</p> <ul style="list-style-type: none"> • Human Flt3-Ligand, 100 µg • Human SCF, 100 µg • Human TPO, 100 µg • Human IL-6, 20 µg 	<p>Animal-Free Human Hematopoietic Stem Cell Expansion Cytokine Package Cat. No. AF-HHSC6</p> <p>Includes 4 vials:</p> <ul style="list-style-type: none"> • Animal-Free Human Flt3-Ligand, 100 µg • Animal-Free Human SCF, 100 µg • Animal-Free Human TPO, 100 µg • Animal-Free Human IL-6, 20 µg
<p>Murine Hematopoietic Stem Cell Expansion Cytokine Package (IL-3) Cat. No. MHSC3</p> <p>Includes 4 vials:</p> <ul style="list-style-type: none"> • Murine Flt3-Ligand, 100 µg • Murine SCF, 100 µg • Murine TPO, 100 µg • Murine IL-3, 10 µg 	<p>Murine Hematopoietic Stem Cell Expansion Cytokine Package (IL-6) Cat. No. MHSC6</p> <p>Contains the key components required for <i>ex vivo</i> mouse hematopoietic stem cells.</p> <p>Includes 4 vials:</p> <ul style="list-style-type: none"> • Murine Flt3-Ligand, 100 µg • Murine SCF, 100 µg • Murine TPO, 100 µg • Murine IL-6, 10 µg

Animal-free cytokines

Gibco™ PeproTech™ animal-free cytokines are designed to minimize potential variables associated with the use of animal-derived manufacturing components. Production protocols have been modified to include only animal-free reagents and chemicals, while maintaining high biological activity and purity identical to those of the corresponding proteins produced using standard techniques.

Our *E. coli*-derived animal-free cytokines are manufactured under strict animal-free manufacturing conditions in dedicated animal-free labs.

Glycosylated and fully biologically active, our cell culture-derived animal-free cytokines are manufactured in our Cranbury, New Jersey, facility, using animal-free raw materials and expression systems consisting of serum-free, animal-free, chemically defined media.

PeproTech animal-free cytokines

Description	Cat. No.	Size A	Size B	Bulk
Human/Murine/Rat Activin A	AF-120-14E	2 µg	10 µg	1 mg
Human Apo-SAA1	AF-300-53	10 µg	50 µg	1 mg
Human Artemin	AF-450-17	5 µg	20 µg	1 mg
Human 4-1BB Ligand	AF-310-11	5 µg	20 µg	1 mg
Human BAFF	AF-310-13	5 µg	20 µg	1 mg
Murine BD-3	AF-250-41	5 µg	20 µg	1 mg
Human BD-5	AF-300-68	5 µg	20 µg	1 mg
Human/Murine/Rat BDNF	AF-450-02	2 µg	10 µg	1 mg
Human/Murine/Rat BMP-2	AF-120-02	2 µg	10 µg	1 mg
Human BMP-4	AF-120-05ET	2 µg	10 µg	1 mg
Human BMP-13/CDMP-2	AF-120-04	10 µg	50 µg	1 mg
Human C5a	AF-300-70	5 µg	20 µg	1 mg
Human sCD40 Ligand	AF-310-02	10 µg	50 µg	1 mg
Human CNTF	AF-450-13	5 µg	20 µg	1 mg
Rat CNTF	AF-450-50	5 µg	25 µg	1 mg
Human EGF	AF-100-15	100 µg	500 µg	1 mg
Murine EGF	AF-315-09	100 µg	500 µg	1 mg
Rat EGF	AF-400-25	20 µg	100 µg	1 mg
Human Enterokinase	AF-450-48C	10 µg	50 µg	1 mg
Human Eotaxin (CCL11)	AF-300-21	5 µg	20 µg	1 mg
Human Epiregulin	AF-100-04	5 µg	25 µg	1 mg
Human FGF-Acidic	AF-100-17A	10 µg	50 µg	1 mg
Bovine FGF-Basic	AF-450-62	10 µg	50 µg	1 mg
Human FGF-Basic (154 amino acids)	AF-100-18B	10 µg	50 µg	1 mg
Human FGF-Basic (146 amino acids)	AF-100-18C	10 µg	50 µg	1 mg
Murine FGF-Basic	AF-450-33	10 µg	50 µg	1 mg
Human FGF-4	AF-100-31	5 µg	25 µg	1 mg
Human FGF-6	AF-100-30	5 µg	25 µg	1 mg
Human/Murine FGF-8b	AF-100-25	5 µg	25 µg	1 mg
Human FGF-9	AF-100-23	5 µg	20 µg	1 mg
Human FGF-10	AF-100-26	5 µg	25 µg	1 mg
Human FGF-18	AF-100-28	5 µg	25 µg	1 mg
Human FGF-19	AF-100-32	5 µg	25 µg	1 mg
Human FGF-21	AF-100-42	5 µg	25 µg	1 mg
Human Flt3-Ligand	AF-300-19	2 µg	10 µg	1 mg
Human G-CSF	AF-300-23	2 µg	10 µg	1 mg
Murine G-CSF	AF-250-05	2 µg	10 µg	1 mg
Human GDF-3	AF-120-22	5 µg	20 µg	1 mg
Human GDF-5 (BMP-14/CDMP-1)	AF-120-01	10 µg	50 µg	1 mg
Human GDNF	AF-450-10	2 µg	10 µg	1 mg
Murine GDNF	AF-450-44	2 µg	10 µg	1 mg
Rat GDNF	AF-450-51	2 µg	10 µg	1 mg
Human GM-CSF	AF-300-03	5 µg	20 µg	1 mg

PeproTech animal-free cytokines

Description	Cat. No.	Size A	Size B	Bulk
Murine GM-CSF	AF-315-03	5 µg	20 µg	1 mg
Rat GM-CSF	AF-400-23	5 µg	20 µg	1 mg
Human GRO-α/MGSA (CXCL1)	AF-300-11	5 µg	25 µg	1 mg
Human Growth Hormone	AF-100-40	10 µg	50 µg	1 mg
Human Heregulin β-1	AF-100-03	10 µg	50 µg	1 mg
Human IFN-β	AF-300-02B	5 µg	20 µg	1 mg
Human IFN-γ	AF-300-02	20 µg	100 µg	1 mg
Murine IFN-γ	AF-315-05	20 µg	100 µg	1 mg
Human IFN-λ1	AF-300-02L	5 µg	20 µg	1 mg
Human IGF-I	AF-100-11	100 µg	500 µg	1 mg
Human IGF-I LR3	AF-100-11R3	200 µg	NA	1 mg
Human IGF-II	AF-100-12	10 µg	50 µg	1 mg
Human IGF-BP3	AF-100-08	5 µg	25 µg	1 mg
Human IGF-BP7	AF-350-09	5 µg	25 µg	1 mg
Human IL-1α	AF-200-01A	2 µg	10 µg	1 mg
Human IL-1β	AF-200-01B	2 µg	10 µg	1 mg
Murine IL-1β	AF-211-11B	2 µg	10 µg	1 mg
Human IL-1RA	AF-200-01RA	20 µg	100 µg	1 mg
Human IL-2	AF-200-02	10 µg	50 µg	1 mg
Murine IL-2	AF-212-12	5 µg	20 µg	1 mg
Rat IL-2	AF-400-02	5 µg	20 µg	1 mg
Human IL-3	AF-200-03	2 µg	10 µg	1 mg
Murine IL-3	AF-213-13	2 µg	10 µg	1 mg
Human IL-4	AF-200-04	5 µg	20 µg	1 mg
Murine IL-4	AF-214-14	5 µg	20 µg	1 mg
Human IL-5	AF-200-05	2 µg	10 µg	1 mg
Human IL-6	AF-200-06	5 µg	20 µg	1 mg
Murine IL-6	AF-216-16	2 µg	10 µg	1 mg
Human IL-7	AF-200-07	2 µg	10 µg	1 mg
Human IL-8 (CXCL8) (72 amino acids)	AF-200-08M	5 µg	25 µg	1 mg
Human IL-9	AF-200-09	2 µg	10 µg	1 mg
Human IL-10	AF-200-10	2 µg	10 µg	1 mg
Murine IL-10	AF-210-10	2 µg	10 µg	1 mg
Human IL-11	AF-200-11	2 µg	10 µg	1 mg
Human IL-13	AF-200-13	2 µg	10 µg	1 mg
Human IL-15	AF-200-15	2 µg	10 µg	1 mg
Human IL-16 (121 amino acids)	AF-200-16A	2 µg	10 µg	1 mg
Human IL-17A	AF-200-17	5 µg	25 µg	1 mg
Human IL-17D	AF-200-27	5 µg	25 µg	1 mg
Human IL-17E	AF-200-24	5 µg	25 µg	1 mg
Human IL-17F	AF-200-25	5 µg	25 µg	1 mg
Human IL-21	AF-200-21	2 µg	10 µg	1 mg
Murine IL-21	AF-210-21	2 µg	10 µg	1 mg
Human IL-22	AF-200-22	2 µg	10 µg	1 mg
Murine IL-22	AF-210-22	2 µg	10 µg	1 mg
Human IL-33	AF-200-33	2 µg	10 µg	1 mg
Human IL-36γ (IL-1F9)	AF-200-36G	2 µg	10 µg	1 mg
Human IL-37 (IL-1F7)	AF-200-39	5 µg	25 µg	1 mg
Human I-TAC (CXCL11)	AF-300-46	5 µg	20 µg	1 mg
Human KGF (FGF-7)	AF-100-19	2 µg	10 µg	1 mg
Human Leptin	AF-300-27	200 µg	1 mg	5 mg
Murine Leptin	AF-450-31	200 µg	1 mg	5 mg
Human LIF	AF-300-05	5 µg	25 µg	1 mg
Murine LIF	AF-250-02	5 µg	25 µg	1 mg
Murine LIGHT	AF-315-12	5 µg	20 µg	
Human MCP-1 (CCL2)	AF-300-04	5 µg	20 µg	1 mg
Human MCP-2 (CCL8)	AF-300-15	2 µg	10 µg	1 mg
Human M-CSF	AF-300-25	2 µg	10 µg	1 mg

PeproTech animal-free cytokines

Description	Cat. No.	Size A	Size B	Bulk
Murine M-CSF	AF-315-02	2 µg	10 µg	1 mg
Rat M-CSF	AF-400-28	2 µg	10 µg	1 mg
Human MIP-1α (CCL3)	AF-300-08	5 µg	20 µg	1 mg
Human β-NGF	AF-450-01	20 µg	100 µg	1 mg
Murine Noggin	AF-250-38	5 µg	20 µg	1 mg
Human NT-3	AF-450-03	2 µg	10 µg	1 mg
Human NT-4	AF-450-04	2 µg	10 µg	1 mg
Human Oncostatin M (209 amino acids)	AF-300-10T	2 µg	10 µg	1 mg
Human PDGF-AA	AF-100-13A	2 µg	10 µg	1 mg
Human PDGF-BB	AF-100-14B	2 µg	10 µg	1 mg
Human PlGF-1	AF-100-06	5 µg	25 µg	1 mg
Human sRANK Ligand	AF-310-01	2 µg	10 µg	1 mg
Human RANTES (CCL5)	AF-300-06	5 µg	20 µg	1 mg
Human SCF	AF-300-07	2 µg	10 µg	1 mg
Murine SCF	AF-250-03	2 µg	10 µg	1 mg
Rat SCF	AF-400-22	2 µg	10 µg	1 mg
Human SDF-1α (CXCL12)	AF-300-28A	2 µg	10 µg	1 mg
Human SDF-1β (CXCL12)	AF-300-28B	2 µg	10 µg	1 mg
Human sTNF Receptor Type I	AF-310-07	5 µg	20 µg	1 mg
Human TECK (CCL25)	AF-300-45	5 µg	20 µg	1 mg
Human TGF-α	AF-100-16A	20 µg	100 µg	1 mg
Human TGF-β1	AF-100-21C	2 µg	10 µg	1 mg
Human TGF-β3	AF-100-36E	2 µg	10 µg	1 mg
Human TL-1A	AF-310-23	5 µg	20 µg	1 mg
Human TNF-α	AF-300-01A	10 µg	50 µg	1 mg
Murine TNF-α	AF-315-01A	5 µg	20 µg	1 mg
Human TPO	AF-300-18	2 µg	10 µg	1 mg
Murine TPO	AF-315-14	2 µg	10 µg	1 mg
Rat TPO	AF-400-34	2 µg	10 µg	1 mg
Human TWEAK	AF-310-06	5 µg	25 µg	1 mg
Human VEGF ₁₂₁	AF-100-20A	2 µg	10 µg	1 mg
Human VEGF ₁₆₅	AF-100-20	2 µg	10 µg	1 mg
Murine VEGF ₁₆₅	AF-450-32	2 µg	10 µg	1 mg
Human Vitronectin	AF-140-09	100 µg	500 µg	1 mg

Research use only (RUO) cytokines

Full-length and fully biologically active RUO cytokines are developed in-house by our experienced protein scientists. The process starts in our molecular biology labs with gene design and expression, and continues to cell banking, fermentation/cell culture, purification, QC testing, and finally QA release.

PeproTech RUO cytokines

Description	Cat. No.	Size A	Size B	Bulk	Source
Human/Murine/Rat Activin A	120-14	2 µg	10 µg	1 mg	Insect cells
Human/Murine/Rat Activin A	120-14E	2 µg	10 µg	1 mg	<i>E. coli</i>
Human/Murine/Rat Activin A	120-14P	2 µg	10 µg	1 mg	CHO cells
Human Adiponectin	450-24	5 µg	25 µg	1 mg	Insect cells
Human Agrin	160-08	10 µg	50 µg	1 mg	CHO cells
Murine Adiponectin	315-26	5 µg	25 µg	1 mg	Insect cells
<i>Aeromonas</i> Aminopeptidase	100-10	100 µg	500 µg	1 mg	<i>E. coli</i>
Human AITRL	310-22	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Amphiregulin	100-55B	10 µg	50 µg	1 mg	<i>E. coli</i>
Murine Amphiregulin	315-36	10 µg	50 µg	1 mg	<i>E. coli</i>
Human ANG-1	130-06	5 µg	20 µg	1 mg	HeLa cells
Human ANG-2	130-07	5 µg	20 µg	1 mg	CHO cells
Human ANGPTL-3	130-18	10 µg	50 µg	1 mg	CHO cells
Human ANGPTL-7	130-22	5 µg	20 µg	1 mg	Insect cells
Human ApoA-I	350-11	20 µg	100 µg	1 mg	<i>E. coli</i>
Human ApoE2	350-12	100 µg	500 µg	1 mg	<i>E. coli</i>
Human ApoE3	350-02	100 µg	500 µg	1 mg	<i>E. coli</i>
Human ApoE4	350-04	100 µg	500 µg	1 mg	<i>E. coli</i>
Human Apo-SAA	300-13	10 µg	50 µg	1 mg	<i>E. coli</i>
Human Apo-SAA1	300-53	10 µg	50 µg	1 mg	<i>E. coli</i>
Human APRIL	310-10C	2 µg	10 µg	1 mg	Insect cells
Murine APRIL	315-13	5 µg	20 µg	1 mg	<i>E. coli</i>
<i>Lysobacter enzymogenes</i> Arg-C	450-54	5 µg	20 µg	1 mg	Insect cells
<i>Mycoplasma</i> Arginine Deiminase	150-12	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Artemin	450-17	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine Artemin	450-58	5 µg	20 µg	1 mg	<i>E. coli</i>
Human 4-1BB Ligand	310-11	5 µg	20 µg	1 mg	<i>E. coli</i>
Human 4-1BB Receptor	310-15	5 µg	20 µg	1 mg	<i>E. coli</i>
Human B7-1 Fc	310-32	20 µg	100 µg	1 mg	CHO cells
Human B7-2 Fc	310-33	20 µg	100 µg	1 mg	CHO cells
Human B7-H2 Fc	310-37	20 µg	100 µg	1 mg	CHO cells
Human BAFF	310-13	5 µg	20 µg	1 mg	<i>E. coli</i>
Human BAFF Receptor	310-13R	10 µg	50 µg	1 mg	<i>E. coli</i>
Human BCA-1 (CXCL13)	300-47	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine BCA-1/BLC (CXCL13)	250-24	5 µg	20 µg	1 mg	<i>E. coli</i>
Human BCMA	310-16	5 µg	20 µg	1 mg	<i>E. coli</i>
Human BD-1 (36 amino acids)	300-51	5 µg	20 µg	1 mg	<i>E. coli</i>
Human BD-1 (47 amino acids)	300-51A	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine BD-1	250-44	5 µg	20 µg	1 mg	<i>E. coli</i>
Human BD-2	300-49	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine BD-2	250-40	5 µg	20 µg	1 mg	<i>E. coli</i>
Human BD-3	300-52	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine BD-3	250-41	5 µg	20 µg	1 mg	<i>E. coli</i>
Human BD-4	300-65	5 µg	20 µg	1 mg	<i>E. coli</i>
Human BD-5	300-68	5 µg	20 µg	1 mg	<i>E. coli</i>
Human/Murine/Rat BDNF	450-02	2 µg	10 µg	1 mg	<i>E. coli</i>

PeproTech RUO cytokines

Description	Cat. No.	Size A	Size B	Bulk	Source
Human Betacellulin	100-50	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine Betacellulin	315-21	5 µg	20 µg	1 mg	<i>E. coli</i>
Human/Murine/Rat BMP-2	120-02	2 µg	10 µg	1 mg	<i>E. coli</i>
Human/Murine/Rat BMP-2	120-02C	2 µg	10 µg	1 mg	CHO cells
Human BMP-3	120-24B	10 µg	50 µg	1 mg	<i>E. coli</i>
Human BMP-4	120-05	1 µg	5 µg	1 mg	HeLa cells
Human BMP-4	120-05ET	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine BMP-4	315-27	2 µg	10 µg	1 mg	<i>E. coli</i>
Human BMP-5	120-39	2 µg	10 µg	1 mg	CHO cells
Human BMP-6	120-06	2 µg	10 µg	1 mg	HEK293 cells
Human BMP-7	120-03P	2 µg	10 µg	1 mg	CHO cells
Human BMP-10	120-40	2 µg	10 µg	1 mg	HEK293 cells
Human BMP-13/CDMP-2	120-04	10 µg	50 µg	1 mg	<i>E. coli</i>
Human BRAK (CXCL14)	300-50	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine BRAK (CXCL14)	250-45	5 µg	20 µg	1 mg	<i>E. coli</i>
Human BTLA Fc	310-43	10 µg	50 µg	1 mg	CHO cells
Human C1 Inhibitor	130-20	50 µg	200 µg	1 mg	CHO cells
Murine C10 (CCL6)	250-06	2 µg	10 µg	1 mg	<i>E. coli</i>
Human C5a	300-70	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine C5a	315-40	5 µg	20 µg	1 mg	<i>E. coli</i>
Rat Carboxypeptidase-B	400-00	5 µg	25 µg	1 mg	<i>E. coli</i>
Human Cardiotrophin-1	300-32	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine Cardiotrophin-1	250-25	2 µg	10 µg	1 mg	<i>E. coli</i>
Human CD200 Fc	310-46	10 µg	50 µg	1 mg	CHO cells
Human sCD4	110-11	10 µg	50 µg	1 mg	CHO cells
Human sCD8a	310-41	10 µg	50 µg	1 mg	CHO cells
Human sCD14	110-01	10 µg	50 µg	1 mg	HEK293 cells
Human sCD22	100-01	5 µg	20 µg	1 mg	CHO cells
Human sCD23	310-26	5 µg	20 µg	1 mg	<i>E. coli</i>
Human sCD27 Ligand	310-30	10 µg	50 µg	1 mg	CHO cells
Human sCD28 Fc	310-34	20 µg	100 µg	1 mg	CHO cells
Human sCD30 Ligand	450-42	10 µg	50 µg	1 mg	CHO cells
Human sCD34	310-31	5 µg	20 µg	1 mg	CHO cells
Human sCD40 Ligand	310-02	10 µg	50 µg	1 mg	<i>E. coli</i>
Murine sCD40 Ligand	315-15	5 µg	25 µg	1 mg	<i>E. coli</i>
Human sCD100	310-29	5 µg	20 µg	1 mg	CHO cells
Human CDNF	450-05	5 µg	25 µg	1 mg	<i>E. coli</i>
Human Chemerin	300-66	5 µg	25 µg	1 mg	<i>E. coli</i>
Human CNTF	450-13	5 µg	20 µg	1 mg	<i>E. coli</i>
Rat CNTF	450-50	5 µg	25 µg	1 mg	<i>E. coli</i>
Human CTACK (CCL27)	300-54	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine CTACK (CCL27)	250-26	5 µg	20 µg	1 mg	<i>E. coli</i>
Human CTGF	120-19	5 µg	20 µg	1 mg	<i>E. coli</i>
Human CTGFL/WISP-2	120-16	5 µg	20 µg	1 mg	<i>E. coli</i>
Human CTLA-4 Fc	310-05	50 µg	200 µg	1 mg	CHO cells
Human CXCL16	300-55	5 µg	25 µg	1 mg	<i>E. coli</i>
Murine CXCL16	250-28	5 µg	25 µg	1 mg	<i>E. coli</i>
Human CYR61	120-25	5 µg	20 µg	1 mg	<i>E. coli</i>
Human DKK-1	120-30	2 µg	10 µg	1 mg	HEK293 cells
Human DKK-2	120-45	2 µg	10 µg	1 mg	CHO cells
Human DKK-3	120-46	2 µg	10 µg	1 mg	CHO cells
Human sDLL-1	140-08	5 µg	25 µg	1 mg	HEK293 cells
Human sDLL-4	140-07	5 µg	25 µg	1 mg	HEK293 cells
Human EGF	AF-100-15	100 µg	500 µg	1 mg	<i>E. coli</i>

PeproTech RUO cytokines

Description	Cat. No.	Size A	Size B	Bulk	Source
Murine EGF	315-09	100 µg	500 µg	1 mg	<i>E. coli</i>
Rat EGF	400-25	20 µg	100 µg	1 mg	<i>E. coli</i>
Human EGF Receptor (EGFR)	100-15R	2 µg	10 µg	1 mg	CHO cells
Human EGF-L7	100-61	2 µg	10 µg	1 mg	<i>E. coli</i>
Human EG-VEGF	100-44	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine EG-VEGF	315-29	5 µg	20 µg	1 mg	<i>E. coli</i>
Human ENA-78 (CXCL5) (amino acids 5–78)	300-22	5 µg	20 µg	1 mg	<i>E. coli</i>
Human ENA-78 (CXCL5) (amino acids 8–78)	300-22B	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Endostatin	150-01	20 µg	100 µg	1 mg	<i>E. coli</i>
Human Enterokinase	450-48C	10 µg	50 µg	1 mg	CHO cells
Human Eotaxin (CCL11)	300-21	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine Eotaxin (CCL11)	250-01	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Eotaxin-2 (CCL24)	300-33	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine Eotaxin-2 (CCL24)	250-22	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Eotaxin-3 (CCL26)	300-48	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Epigen	100-51	5 µg	25 µg	1 mg	<i>E. coli</i>
Human Epiregulin	100-04	5 µg	25 µg	1 mg	<i>E. coli</i>
Human EPO	100-64	10 µg	50 µg	1 mg	CHO cells
Human E-Selectin	150-15	10 µg	50 µg	1 mg	CHO cells
Human Exodus-2 (CCL21)	300-35A	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine Exodus-2 (CCL21)	250-13	5 µg	20 µg	1 mg	<i>E. coli</i>
Human sFas Ligand	310-03H	2 µg	10 µg	1 mg	CHO cells
Human sFas Receptor	310-20	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Fetuin A/AHSG	140-13	10 µg	50 µg	1 mg	HEK293 cells
Human FGF-Acidic	100-17A	10 µg	50 µg	1 mg	<i>E. coli</i>
Murine FGF-Acidic	450-33A	10 µg	50 µg	1 mg	<i>E. coli</i>
Rat FGF-Acidic	400-29A	10 µg	50 µg	1 mg	<i>E. coli</i>
Human FGF-Basic (154 amino acids)	100-18B	10 µg	50 µg	1 mg	<i>E. coli</i>
Human Heat-Stable FGF-Basic (154 amino acids)	100-18BHS	10 µg	50 µg	1 mg	<i>E. coli</i>
Human FGF-Basic (146 amino acids)	100-18C	10 µg	50 µg	1 mg	<i>E. coli</i>
Murine FGF-Basic	450-33	10 µg	50 µg	1 mg	<i>E. coli</i>
Rat FGF-Basic	400-29	10 µg	50 µg	1 mg	<i>E. coli</i>
Human FGF-4	100-31	5 µg	25 µg	1 mg	<i>E. coli</i>
Murine FGF-4	450-57	5 µg	25 µg	1 mg	<i>E. coli</i>
Human FGF-5	100-34	10 µg	50 µg	1 mg	<i>E. coli</i>
Human FGF-6	100-30	5 µg	25 µg	1 mg	<i>E. coli</i>
Human FGF-8a	100-25A	5 µg	25 µg	1 mg	CHO cells
Human/Murine FGF-8b	100-25	5 µg	25 µg	1 mg	<i>E. coli</i>
Human FGF-9	100-23	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine FGF-9	450-30	2 µg	10 µg	1 mg	<i>E. coli</i>
Human FGF-10	100-26	5 µg	25 µg	1 mg	<i>E. coli</i>
Murine FGF-10	450-61	5 µg	25 µg	1 mg	<i>E. coli</i>
Rat FGF-10	400-42	5 µg	25 µg	1 mg	<i>E. coli</i>
Human FGF-16	100-29	5 µg	25 µg	1 mg	<i>E. coli</i>
Human FGF-17	100-27	5 µg	25 µg	1 mg	<i>E. coli</i>
Human FGF-18	100-28	5 µg	25 µg	1 mg	<i>E. coli</i>
Human FGF-19	100-32	5 µg	25 µg	1 mg	<i>E. coli</i>
Human FGF-20	100-41	3 µg	15 µg	1 mg	<i>E. coli</i>
Human FGF-21	100-42	5 µg	25 µg	1 mg	<i>E. coli</i>
Murine FGF-21	450-56	5 µg	25 µg	1 mg	<i>E. coli</i>
Human FGF-23	100-52	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine FGF-23	450-55	5 µg	20 µg	1 mg	<i>E. coli</i>
Human FGF-BP-1	100-66	5 µg	25 µg	1 mg	<i>E. coli</i>
Human FGFR1a (IIIc) Fc	160-02	10 µg	50 µg	1 mg	CHO cells

PeproTech RUO cytokines

Description	Cat. No.	Size A	Size B	Bulk	Source
Human FGFR2a (IIIc) Fc	160-03	10 µg	50 µg	1 mg	CHO cells
Human FGFR3 (IIIc) Fc	160-05	10 µg	50 µg	1 mg	CHO cells
Human Flt3-Ligand	300-19	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine Flt3-Ligand	250-31L	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat Flt3-Ligand	400-43	2 µg	10 µg	1 mg	<i>E. coli</i>
Human Follistatin	120-13	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Fractalkine (CX3CL1)	300-31	5 µg	20 µg	1 mg	<i>E. coli</i>
Rat Fractalkine (CX3CL1)	400-26	5 µg	20 µg	1 mg	<i>E. coli</i>
Human sFRP-1	120-29	5 µg	20 µg	1 mg	HeLa cells
Human sFRP-4	120-50	5 µg	25 µg	1 mg	CHO cells
Human sFRP-5	120-53	10 µg	50 µg	1 mg	CHO cells
Human FSTL1	120-51	10 µg	50 µg	1 mg	CHO cells
Human Furin	450-47	2 µg	10 µg	1 mg	Insect cells
Human gAcrp30/Adipolean	450-21	5 µg	25 µg	1 mg	<i>E. coli</i>
Murine gAcrp30	450-27	5 µg	25 µg	1 mg	<i>E. coli</i>
Human gAcrp30/Adipolean Variant	450-20	5 µg	25 µg	1 mg	<i>E. coli</i>
Human Galectin-1	450-39	10 µg	50 µg	1 mg	<i>E. coli</i>
Human Galectin-3	450-38	10 µg	50 µg	1 mg	<i>E. coli</i>
Human GASP-1	120-41	5 µg	25 µg	1 mg	CHO cells
Human GCP-2 (CXCL6)	300-41	5 µg	20 µg	1 mg	<i>E. coli</i>
Human G-CSF	300-23	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine G-CSF	250-05	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat G-CSF	400-37	2 µg	10 µg	1 mg	<i>E. coli</i>
Human GDF-2	120-07	2 µg	10 µg	1 mg	CHO cells
Human GDF-3	120-22	5 µg	20 µg	1 mg	<i>E. coli</i>
Human GDF-5 (BMP-14/CDMP-1)	120-01	10 µg	50 µg	1 mg	<i>E. coli</i>
Murine GDF-5 (BMP-14/CDMP-1)	315-24	10 µg	50 µg	1 mg	<i>E. coli</i>
Human GDF-7	120-37	2 µg	10 µg	1 mg	<i>E. coli</i>
Human/Murine/Rat GDF-11	120-11	5 µg	20 µg	1 mg	<i>E. coli</i>
Human GDF-15/MIC-1	120-28C	5 µg	20 µg	1 mg	CHO cells
Human GDNF	450-10	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine GDNF	450-44	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat GDNF	450-51	2 µg	10 µg	1 mg	<i>E. coli</i>
Human GITR/TNFRSF18 Fc	310-22R	20 µg	100 µg	1 mg	CHO cells
Human GLP-1	130-08	200 µg	1 mg	5 mg	<i>E. coli</i>
<i>Staphylococcus</i> Glu-C	450-46	50 µg	250 µg	1 mg	<i>E. coli</i>
Human GM-CSF	300-03	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine GM-CSF	315-03	5 µg	20 µg	1 mg	<i>E. coli</i>
Rat GM-CSF	400-23	5 µg	20 µg	1 mg	<i>E. coli</i>
Human GMF-β	450-37	2 µg	10 µg	1 mg	<i>E. coli</i>
Human GPR15L	300-71	5 µg	25 µg	1 mg	<i>E. coli</i>
Murine GPR15L	300-72	5 µg	25 µg	1 mg	<i>E. coli</i>
Murine Granzyme B	140-03	2 µg	10 µg	1 mg	Insect cells
Human Gremlin-1	120-42	10 µg	50 µg	1 mg	CHO cells
Human GRO-α/MGSA (CXCL1)	300-11	5 µg	25 µg	1 mg	<i>E. coli</i>
Rat GRO/KC (CXCL1)	400-10	5 µg	25 µg	1 mg	<i>E. coli</i>
Human GRO-β (CXCL2)	300-39	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat GRO-β/MIP-2 (CXCL2)	400-11	5 µg	25 µg	1 mg	<i>E. coli</i>
Human GRO-γ (CXCL3)	300-40	2 µg	10 µg	1 mg	<i>E. coli</i>
Human Growth Hormone	100-40	10 µg	50 µg	1 mg	<i>E. coli</i>
Human HB-EGF	100-47	10 µg	50 µg	1 mg	<i>E. coli</i>
Human HCC-1 (CCL14) (72 amino acids)	300-38	2 µg	10 µg	1 mg	<i>E. coli</i>
Human HCC-1 (CCL14) (66 amino acids)	300-38B	2 µg	10 µg	1 mg	<i>E. coli</i>
Human Heregulin β-1	100-03	10 µg	50 µg	1 mg	<i>E. coli</i>

PeproTech RUO cytokines

Description	Cat. No.	Size A	Size B	Bulk	Source
Human HGF	100-39	2 µg	10 µg	1 mg	Insect cells
Human HGF	100-39H	5 µg	25 µg	1 mg	HEK293 cells
Murine HGF	315-23	5 µg	20 µg	1 mg	Insect cells
Human HPRG	100-60	5 µg	25 µg	1 mg	CHO cells
Human HVEM-Fc	310-27	20 µg	100 µg	1 mg	Insect cells
Human I-309 (CCL1)	300-37	2 µg	10 µg	1 mg	<i>E. coli</i>
Human ICAM-1	150-05	10 µg	50 µg	1 mg	CHO cells
Human ICAM-2 Fc	150-22	10 µg	50 µg	1 mg	CHO cells
Human ICAM-3 Fc	150-23	10 µg	50 µg	1 mg	CHO cells
Human ICOS Fc	310-39	10 µg	50 µg	1 mg	CHO cells
Human IFN-α	300-02AA	20 µg	100 µg	1 mg	<i>E. coli</i>
Human IFN-β	300-02BC	5 µg	20 µg	1 mg	CHO cells
Human IFN-γ	300-02	20 µg	100 µg	1 mg	<i>E. coli</i>
Murine IFN-γ	315-05	20 µg	100 µg	1 mg	<i>E. coli</i>
Rat IFN-γ	400-20	20 µg	100 µg	1 mg	<i>E. coli</i>
Human IFN-λ1	300-02L	5 µg	20 µg	1 mg	<i>E. coli</i>
Human IFN-λ2	300-02K	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine IFN-λ2	250-33	5 µg	20 µg	1 mg	<i>E. coli</i>
Human IFN-ω	300-02J	20 µg	100 µg	1 mg	<i>E. coli</i>
Human IGF-I	100-11	100 µg	500 µg	1 mg	<i>E. coli</i>
Murine IGF-I	250-19	10 µg	50 µg	1 mg	<i>E. coli</i>
Human IGF-I LR3	100-11R3	200 µg	1 mg	1 mg	<i>E. coli</i>
Human IGF-II	100-12	10 µg	50 µg	1 mg	<i>E. coli</i>
Human IGF-BP1	350-10	5 µg	25 µg	1 mg	<i>E. coli</i>
Human IGF-BP2	350-06B	5 µg	20 µg	1 mg	Insect cells
Human IGF-BP3	100-08	5 µg	25 µg	1 mg	<i>E. coli</i>
Human IGF-BP4	350-05B	5 µg	20 µg	1 mg	Insect cells
Human IGF-BP5	100-05	5 µg	25 µg	1 mg	<i>E. coli</i>
Human IGF-BP6	350-07B	5 µg	20 µg	1 mg	Insect cells
Human IGF-BP7	350-09	5 µg	25 µg	1 mg	<i>E. coli</i>
Human IL-1α	200-01A	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine IL-1α	211-11A	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat IL-1α	400-01A	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-1β	200-01B	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine IL-1β	211-11B	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat IL-1β	400-01B	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-1RA	200-01RA	20 µg	100 µg	1 mg	<i>E. coli</i>
Human IL-2	200-02	10 µg	50 µg	1 mg	<i>E. coli</i>
Murine IL-2	212-12	5 µg	20 µg	1 mg	<i>E. coli</i>
Rat IL-2	400-02	5 µg	20 µg	1 mg	<i>E. coli</i>
Human sIL-2 Receptor α	200-02RC	5 µg	25 µg	1 mg	CHO cells
Human IL-3	200-03	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine IL-3	213-13	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat IL-3β	400-03	5 µg	20 µg	1 mg	<i>E. coli</i>
Human IL-4	200-04	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine IL-4	214-14	5 µg	20 µg	1 mg	<i>E. coli</i>
Rat IL-4	400-04	5 µg	20 µg	1 mg	<i>E. coli</i>
Human sIL-2 Receptor β Fc	200-02RB	5 µg	25 µg	1 mg	CHO cells
Human sIL-7 Receptor α Fc	200-07RA	10 µg	50 µg	1 mg	CHO cells
Human sIL-12 Receptor β-2 Fc	200-12RB-2	20 µg	100 µg	1 mg	CHO cells
Human sIL-23 Receptor Fc	200-23R	10 µg	50 µg	1 mg	CHO cells
Human sIL-4 Receptor α	200-04RC	5 µg	20 µg	1 mg	CHO cells
Human IL-5	200-05	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine IL-5	215-15	5 µg	25 µg	1 mg	<i>E. coli</i>

PeproTech RUO cytokines

Description	Cat. No.	Size A	Size B	Bulk	Source
Rat IL-5	400-05	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-6	200-06	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine IL-6	216-16	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat IL-6	400-06	2 µg	10 µg	1 mg	<i>E. coli</i>
Human sIL-6 Receptor α	200-06RC	5 µg	20 µg	1 mg	CHO cells
Human IL-7	200-07	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine IL-7	217-17	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat IL-7	400-07	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-8 (CXCL8) (72 amino acids)	200-08M	5 µg	25 µg	1 mg	<i>E. coli</i>
Human IL-8 (CXCL8) (77 amino acids)	200-08	5 µg	25 µg	1 mg	<i>E. coli</i>
Human IL-9	200-09	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine IL-9	219-19	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat IL-9	400-18	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-10	200-10	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine IL-10	210-10	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat IL-10	400-19	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-11	200-11	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine IL-11	220-11	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine IL-12 p40	210-12P40H	2 µg	10 µg	1 mg	HEK293 cells
Human IL-12 p70	200-12	2 µg	10 µg	1 mg	CHO cells
Human IL-12 p70	200-12H	2 µg	10 µg	1 mg	HEK293 cells
Murine IL-12 p70	210-12	2 µg	10 µg	1 mg	CHO cells
Human IL-12 p80	200-12P80H	2 µg	10 µg	1 mg	Insect cells
Murine IL-12 p80	210-12P80H	2 µg	10 µg	1 mg	HEK293 cells
Human IL-13	200-13	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine IL-13	210-13	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat IL-13 (109 amino acids)	400-16	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat IL-13 (113 amino acids)	400-16L	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-13 Variant	200-13A	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-15	200-15	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine IL-15	210-15	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat IL-15	400-24	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-16 (121 amino acids)	200-16A	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-16 (129 amino acids)	200-16	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-17A	200-17	5 µg	25 µg	1 mg	<i>E. coli</i>
Murine IL-17A	210-17	5 µg	25 µg	1 mg	<i>E. coli</i>
Human IL-17B	200-28	5 µg	25 µg	1 mg	<i>E. coli</i>
Human IL-17D	200-27	5 µg	25 µg	1 mg	<i>E. coli</i>
Murine IL-17D	210-17D	5 µg	25 µg	1 mg	<i>E. coli</i>
Human IL-17E	200-24	5 µg	25 µg	1 mg	<i>E. coli</i>
Murine IL-17E	210-17E	5 µg	25 µg	1 mg	<i>E. coli</i>
Human IL-17F	200-25	5 µg	25 µg	1 mg	<i>E. coli</i>
Murine IL-17F	210-17F	5 µg	25 µg	1 mg	<i>E. coli</i>
Human IL-18BP Fc	200-18BP	20 µg	100 µg	1 mg	CHO cells
Human IL-19	200-19	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-20	200-20	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-21	200-21	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine IL-21	210-21	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat IL-21	400-41	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-22	200-22	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine IL-22	210-22	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-23	200-23	2 µg	10 µg	1 mg	Insect cells
Human IL-24	200-35	5 µg	20 µg	1 mg	CHO cells
Human IL-27	200-38	2 µg	10 µg	1 mg	HEK293 cells

PeproTech RUO cytokines

Description	Cat. No.	Size A	Size B	Bulk	Source
Human IL-31	200-31	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine IL-31	210-31	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-33	200-33	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine IL-33	210-33	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-34	200-34	2 µg	10 µg	1 mg	HEK293 cells
Human IL-35	200-37	2 µg	10 µg	1 mg	HEK293 cells
Human IL-36α (IL-1F6)	200-36A	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-36β (IL-1F8)	200-36B	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-36γ (IL-1F9)	200-36G	2 µg	10 µg	1 mg	<i>E. coli</i>
Human IL-36RA	200-36RA	5 µg	25 µg	1 mg	<i>E. coli</i>
Murine IL-36RA	210-36RA	5 µg	25 µg	1 mg	<i>E. coli</i>
Human IL-37 (IL-1F7)	200-39	5 µg	25 µg	1 mg	<i>E. coli</i>
Human INSL5/INSL7 Hybrid	130-05	5 µg	25 µg	1 mg	<i>E. coli</i>
Human IP-10 (CXCL10)	300-12	5 µg	25 µg	1 mg	<i>E. coli</i>
Murine IP-10 (CXCL10)	250-16	5 µg	25 µg	1 mg	<i>E. coli</i>
Rat IP-10 (CXCL10)	400-33	5 µg	25 µg	1 mg	<i>E. coli</i>
Human/Murine/Rat Irisin	100-65	2 µg	10 µg	1 mg	CHO cells
Human I-TAC (CXCL11)	300-46	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine I-TAC (CXCL11)	250-29	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine JE/MCP-1 (CCL2)	250-10	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine KC (CXCL1)	250-11	5 µg	20 µg	1 mg	<i>E. coli</i>
Yeast Kex-2	450-45	50 µg	250 µg	1 mg	Insect cells
Human KGF (FGF-7)	100-19	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine KGF (FGF-7)	450-60	2 µg	10 µg	1 mg	<i>E. coli</i>
Human KLF4-TAT	110-08	5 µg	25 µg	1 mg	HEK293 cells
Human Klotho	100-53	5 µg	20 µg	1 mg	CHO cells
Human LAG-1 (CCL4L1)	300-58	5 µg	20 µg	1 mg	<i>E. coli</i>
Human LD78β (CCL3L1)	300-56	5 µg	20 µg	1 mg	<i>E. coli</i>
Human LEC (CCL16)	300-44	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Leptin	300-27	200 µg	1 mg	5 mg	<i>E. coli</i>
Murine Leptin	450-31	200 µg	1 mg	5 mg	<i>E. coli</i>
Rat Leptin	400-21	200 µg	1 mg	5 mg	<i>E. coli</i>
Human Leptin Receptor	300-27R	20 µg	100 µg	1 mg	CHO cells
Human LIF	300-05	5 µg	25 µg	1 mg	<i>E. coli</i>
Murine LIF	250-02	5 µg	25 µg	1 mg	<i>E. coli</i>
Human LIGHT	310-09B	3 µg	15 µg	1 mg	Insect cells
Murine LIGHT	315-12	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Lin28-TAT	110-06	5 µg	25 µg	1 mg	<i>E. coli</i>
Murine LIX (CXCL6) (70 amino acids)	250-36	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine LIX (CXCL6) (92 amino acids)	250-17	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Lymphotactin (XCL1)	300-20	5 µg	20 µg	1 mg	<i>E. coli</i>
Human MANF	450-06	5 µg	25 µg	1 mg	<i>E. coli</i>
Human Maspin	130-12	5 µg	20 µg	1 mg	<i>E. coli</i>
Human M-CSF	300-25	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine M-CSF	315-02	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat M-CSF	400-28	2 µg	10 µg	1 mg	<i>E. coli</i>
Human MCP-1 (CCL2)	300-04	5 µg	20 µg	1 mg	<i>E. coli</i>
Rat MCP-1 (CCL2)	400-12	2 µg	10 µg	1 mg	<i>E. coli</i>
Human MCP-2 (CCL8)	300-15	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine MCP-2 (CCL8)	250-14	5 µg	20 µg	1 mg	<i>E. coli</i>
Human MCP-3 (CCL7)	300-17	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine MCP-3 (CCL7)	250-08	2 µg	10 µg	1 mg	<i>E. coli</i>
Human MCP-4 (CCL13)	300-24	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine MCP-5 (CCL12)	250-04	5 µg	20 µg	1 mg	<i>E. coli</i>

PeproTech RUO cytokines

Description	Cat. No.	Size A	Size B	Bulk	Source
Human MD-2/LY96	160-07	10 µg	50 µg	1 mg	HEK293 cells
Human MDC (CCL22) (67 amino acids)	300-36	5 µg	20 µg	1 mg	<i>E. coli</i>
Human MDC (CCL22) (69 amino acids)	300-36A	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine MDC (CCL22)	250-23	5 µg	20 µg	1 mg	<i>E. coli</i>
Human MEC (CCL28)	300-57	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine MEC (CCL28)	250-30	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Mesothelin	100-63	10 µg	50 µg	1 mg	CHO cells
Human MIA	130-01	5 µg	20 µg	1 mg	<i>E. coli</i>
Human MIA-2	130-02	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Midkine	450-16	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine Midkine	315-25	5 µg	20 µg	1 mg	<i>E. coli</i>
Human MIF	300-69	5 µg	25 µg	1 mg	Insect cells
Human MIG (CXCL9)	300-26	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine MIG (CXCL9)	250-18	5 µg	20 µg	1 mg	<i>E. coli</i>
Human MIP-1α (CCL3)	300-08	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine MIP-1α (CCL3)	250-09	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat MIP-1α (CCL3)	400-15	5 µg	20 µg	1 mg	<i>E. coli</i>
Human MIP-1β (CCL4)	300-09	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine MIP-1β (CCL4)	250-32	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat MIP-1β (CCL4)	400-09	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine MIP-1γ (CCL9/10)	250-12	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine MIP-2 (CXCL2)	250-15	5 µg	20 µg	1 mg	<i>E. coli</i>
Viral MIP-2	350-03	10 µg	50 µg	1 mg	<i>E. coli</i>
Human MIP-3 (CCL23)	300-29	5 µg	20 µg	1 mg	<i>E. coli</i>
Human MIP-3α (CCL20)	300-29A	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine MIP-3α (CCL20)	250-27	5 µg	20 µg	1 mg	<i>E. coli</i>
Human MIP-3β (CCL19)	300-29B	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine MIP-3β (CCL19)	250-27B	5 µg	20 µg	1 mg	<i>E. coli</i>
Human MIP-4 (CCL18)	300-34	2 µg	10 µg	1 mg	<i>E. coli</i>
Human MIP-5 (CCL15)	300-43	5 µg	25 µg	1 mg	<i>E. coli</i>
Human MMP-1	420-01	2 µg	10 µg	1 mg	<i>E. coli</i>
Human MMP-2	420-02	2 µg	10 µg	1 mg	<i>E. coli</i>
Human MMP-3	420-03	2 µg	10 µg	1 mg	<i>E. coli</i>
Human MPF	100-62	10 µg	50 µg	1 mg	CHO cells
Human/Murine/Rat Myostatin	120-00	2 µg	10 µg	1 mg	<i>E. coli</i>
Human Myostatin-Propeptide	120-12	5 µg	25 µg	1 mg	<i>E. coli</i>
Human Nanog	120-21	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Nanog-TAT	120-21B	5 µg	20 µg	1 mg	<i>E. coli</i>
Human NAP-2 (CXCL7)	300-14	2 µg	10 µg	1 mg	<i>E. coli</i>
Human Nesfatin-1	300-67	20 µg	100 µg	1 mg	<i>E. coli</i>
Human/Rat Neuritin	450-36D	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine Neuropeptin	250-25B	5 µg	25 µg	1 mg	<i>E. coli</i>
Human Neuroserpin	130-14	5 µg	25 µg	1 mg	<i>E. coli</i>
Human Neurturin	450-11	5 µg	20 µg	1 mg	<i>E. coli</i>
Human β-NGF	450-01	20 µg	100 µg	1 mg	<i>E. coli</i>
Murine β-NGF	450-34	5 µg	20 µg	1 mg	<i>E. coli</i>
Human NNT-1/BCSF-3	450-18	2 µg	10 µg	1 mg	<i>E. coli</i>
Human Noggin	120-10C	5 µg	20 µg	1 mg	HEK293 cells
Murine Noggin	250-38	5 µg	20 µg	1 mg	<i>E. coli</i>
Human NOV	120-26	5 µg	20 µg	1 mg	<i>E. coli</i>
Human NP-1	300-42	5 µg	20 µg	1 mg	<i>E. coli</i>
Human NT-3	450-03	2 µg	10 µg	1 mg	<i>E. coli</i>
Human NT-4	450-04	2 µg	10 µg	1 mg	<i>E. coli</i>
Human Oncostatin M (196 amino acids)	300-10H	2 µg	10 µg	1 mg	HEK293 cells

PeproTech RUO cytokines

Description	Cat. No.	Size A	Size B	Bulk	Source
Human Oncostatin M (209 amino acids)	300-10T	2 µg	10 µg	1 mg	<i>E. coli</i>
Human Oncostatin M (227 amino acids)	300-10	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat Oncostatin M	400-36	2 µg	10 µg	1 mg	<i>E. coli</i>
Human OPG	450-14	10 µg	50 µg	1 mg	<i>E. coli</i>
Human Osteopontin	120-35	10 µg	50 µg	1 mg	HEK293 cells
Human OTOR	130-03	5 µg	20 µg	1 mg	<i>E. coli</i>
Human sOX40 Ligand	310-28	2 µg	10 µg	1 mg	Insect cells
Human p16-INK4a	110-02	5 µg	20 µg	1 mg	<i>E. coli</i>
Human p16-INK4a-TAT	110-02T	5 µg	25 µg	1 mg	<i>E. coli</i>
Human PAF-AH	140-10	5 µg	20 µg	1 mg	HEK293 cells
Human PAI-1	140-04	2 µg	10 µg	1 mg	<i>E. coli</i>
Human PAI-2	140-06	2 µg	10 µg	1 mg	<i>E. coli</i>
Human PD-1 Fc	310-40	10 µg	50 µg	1 mg	CHO cells
Human PDGF-AA	100-13A	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine PDGF-AA	315-17	2 µg	10 µg	1 mg	<i>E. coli</i>
Human PDGF-AB	100-00AB	2 µg	10 µg	1 mg	<i>E. coli</i>
Human PDGF-BB	100-14B	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine PDGF-BB	315-18	2 µg	10 µg	1 mg	<i>E. coli</i>
Human PDGF-CC	100-00CC	5 µg	20 µg	1 mg	<i>E. coli</i>
Human PD-L1 Fc	310-35	20 µg	100 µg	1 mg	CHO cells
Human PD-L2 Fc	310-38	20 µg	100 µg	1 mg	CHO cells
Human PECAM-1	150-06	10 µg	50 µg	1 mg	HEK293 cells
Human PEDF	130-13	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Persephin	450-12	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine Persephin	450-35	5 µg	20 µg	1 mg	<i>E. coli</i>
Human PF-4 (CXCL4)	300-16	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine PF-4 (CXCL4)	250-39	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Pleiotrophin	450-15	5 µg	20 µg	1 mg	<i>E. coli</i>
Human PIGF-1	100-06	5 µg	25 µg	1 mg	<i>E. coli</i>
Rat PIGF-1	400-39	5 µg	25 µg	1 mg	<i>E. coli</i>
Human PIGF-2	100-56A	5 µg	25 µg	1 mg	<i>E. coli</i>
Human PIGF-3	100-57	5 µg	25 µg	1 mg	<i>E. coli</i>
Human Prokineticin-2	100-46	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine Prokineticin-2	315-38	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Prolactin	100-07	10 µg	50 µg	1 mg	<i>E. coli</i>
Murine Prolactin	315-16	10 µg	50 µg	1 mg	<i>E. coli</i>
Rat Prolactin	400-27	10 µg	50 µg	1 mg	<i>E. coli</i>
Human PTHrP	100-09	10 µg	50 µg	1 mg	<i>E. coli</i>
Human R-Spondin-1	120-38	5 µg	20 µg	1 mg	CHO cells
Murine R-Spondin-1	315-32	5 µg	20 µg	1 mg	CHO cells
Human R-Spondin-2	120-43	5 µg	20 µg	1 mg	CHO cells
Human R-Spondin-3	120-44	5 µg	20 µg	1 mg	CHO cells
Human sRANK Ligand	310-01	2 µg	10 µg	1 mg	<i>E. coli</i>
Human sRANK Ligand	310-01C	2 µg	10 µg	1 mg	CHO cells
Murine sRANK Ligand	315-11	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine sRANK Ligand	315-11C	2 µg	10 µg	1 mg	CHO cells
Rat sRANK Ligand	400-30	2 µg	10 µg	1 mg	<i>E. coli</i>
Human sRANK Receptor	310-08	20 µg	100 µg	1 mg	<i>E. coli</i>
Human RANTES (CCL5)	300-06	5 µg	20 µg	1 mg	<i>E. coli</i>
Murine RANTES (CCL5)	250-07	5 µg	20 µg	1 mg	<i>E. coli</i>
Rat RANTES (CCL5)	400-13	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Relaxin-2	130-15	5 µg	25 µg	1 mg	<i>E. coli</i>
Human Relaxin-3	130-10	5 µg	25 µg	1 mg	<i>E. coli</i>
Murine RELMa	450-26	5 µg	25 µg	1 mg	<i>E. coli</i>

PeproTech RUO cytokines

Description	Cat. No.	Size A	Size B	Bulk	Source
Human RELM β	450-22	5 μ g	25 μ g	1 mg	<i>E. coli</i>
Murine RELM β	450-26B	5 μ g	25 μ g	1 mg	<i>E. coli</i>
Murine RELM γ	450-26G	5 μ g	25 μ g	1 mg	<i>E. coli</i>
Human Resistin	450-19	5 μ g	25 μ g	1 mg	<i>E. coli</i>
Murine Resistin	450-28	5 μ g	25 μ g	1 mg	<i>E. coli</i>
Rat Resistin	400-35	5 μ g	25 μ g	1 mg	<i>E. coli</i>
Human ROR1	160-04	20 μ g	100 μ g	1 mg	CHO cells
Human sCD42b/GP1Ba	310-48	10 μ g	50 μ g	1 mg	CHO cells
Human SCF	300-07	2 μ g	10 μ g	1 mg	<i>E. coli</i>
Murine SCF	250-03	2 μ g	10 μ g	1 mg	<i>E. coli</i>
Rat SCF	400-22	2 μ g	10 μ g	1 mg	<i>E. coli</i>
Human SCGF- α	100-22A	2 μ g	10 μ g	1 mg	<i>E. coli</i>
Human SCGF- β	100-22B	2 μ g	10 μ g	1 mg	<i>E. coli</i>
Human Sclerostin	100-49	5 μ g	20 μ g	1 mg	CHO cells
Human SDF-1 α (CXCL12)	300-28A	2 μ g	10 μ g	1 mg	<i>E. coli</i>
Murine SDF-1 α (CXCL12)	250-20A	2 μ g	10 μ g	1 mg	<i>E. coli</i>
Rat SDF-1 α (CXCL12)	400-32A	2 μ g	10 μ g	1 mg	<i>E. coli</i>
Human SDF-1 β (CXCL12)	300-28B	2 μ g	10 μ g	1 mg	<i>E. coli</i>
Murine SDF-1 β (CXCL12)	250-20B	2 μ g	10 μ g	1 mg	<i>E. coli</i>
Rat SDF-1 β (CXCL12)	400-32B	2 μ g	10 μ g	1 mg	<i>E. coli</i>
Human SDF-1 γ (CXCL12)	300-28G	2 μ g	10 μ g	1 mg	<i>E. coli</i>
Human Semaphorin 3A Fc	150-17H	5 μ g	25 μ g	1 mg	CHO cells
Murine SF-20	210-25	2 μ g	10 μ g	1 mg	<i>E. coli</i>
Human sIL-12 Receptor beta-1 Fc	200-12RB-1	20 μ g	100 μ g	1 mg	CHO cells
Human sIL-15 Receptor alpha Fc	200-15RA	20 μ g	100 μ g	1 mg	Hi-5 insect cells
Human Slit2-N	150-11	5 μ g	25 μ g	1 mg	HEK293 cells
Human SOD	150-10	2 μ g	10 μ g	1 mg	<i>E. coli</i>
Human Sonic Hedgehog (Shh)	100-45	5 μ g	25 μ g	1 mg	<i>E. coli</i>
Murine Sonic Hedgehog (Shh)	315-22	5 μ g	25 μ g	1 mg	<i>E. coli</i>
Human Sox2	110-03	5 μ g	25 μ g	1 mg	<i>E. coli</i>
Human Sox2-TAT	110-03T	5 μ g	25 μ g	1 mg	<i>E. coli</i>
Human SPARC/Osteonectin	120-36	10 μ g	50 μ g	1 mg	CHO cells
Human TACI	310-17	5 μ g	20 μ g	1 mg	<i>E. coli</i>
Human TAFA-2	300-63	5 μ g	20 μ g	1 mg	<i>E. coli</i>
Human TARC (CCL17)	300-30	5 μ g	20 μ g	1 mg	<i>E. coli</i>
Murine TARC (CCL17)	250-43	5 μ g	20 μ g	1 mg	<i>E. coli</i>
Human TECK (CCL25)	300-45	5 μ g	20 μ g	1 mg	<i>E. coli</i>
Human TFF-1	300-60	5 μ g	20 μ g	1 mg	<i>E. coli</i>
Murine TFF-1	315-31	5 μ g	20 μ g	1 mg	<i>E. coli</i>
Human TFF-2	300-59	5 μ g	20 μ g	1 mg	<i>E. coli</i>
Murine TFF-2	315-30	5 μ g	20 μ g	1 mg	<i>E. coli</i>
Human TFF-3	300-61	5 μ g	20 μ g	1 mg	<i>E. coli</i>
Human TGF- α	100-16A	20 μ g	100 μ g	1 mg	<i>E. coli</i>
Human TGF- β ₁	100-21	2 μ g	10 μ g	1 mg	HEK293 cells
Human TGF- β ₁	100-21C	2 μ g	10 μ g	1 mg	CHO cells
Human TGF- β ₂	100-35	2 μ g	10 μ g	1 mg	Insect cells
Human TGF- β ₂	100-35B	2 μ g	10 μ g	1 mg	HEK293 cells
Human TGF- β ₃	100-36E	2 μ g	10 μ g	1 mg	<i>E. coli</i>
Human Thrombomodulin	100-58	2 μ g	10 μ g	1 mg	HEK293 cells
Human/Murine/Rat Thymosin- β 4	140-14	20 μ g	100 μ g	1 mg	<i>E. coli</i>
Human TIGAR	150-14	5 μ g	25 μ g	1 mg	<i>E. coli</i>
Human TIGAR-TAT	150-14T	5 μ g	25 μ g	1 mg	<i>E. coli</i>
Human TIM-3	150-20	10 μ g	50 μ g	1 mg	CHO cells
Human TIMP-1	410-01	2 μ g	10 μ g	1 mg	<i>E. coli</i>

PeproTech RUO cytokines

Description	Cat. No.	Size A	Size B	Bulk	Source
Human TIMP-2	410-02	2 µg	10 µg	1 mg	<i>E. coli</i>
Human Tissue Factor	150-19T	2 µg	10 µg	1 mg	CHO cells
Human TL-1A	310-23	5 µg	20 µg	1 mg	<i>E. coli</i>
Human TLR-3	160-01	5 µg	25 µg	1 mg	HEK293 cells
Human TLR-4	160-06	10 µg	50 µg	1 mg	HEK293 cells
Human TMIGD2/CD28H Fc	310-42	10 µg	50 µg	1 mg	CHO cells
Human TNF-α	300-01A	10 µg	50 µg	1 mg	<i>E. coli</i>
Murine TNF-α	315-01A	5 µg	20 µg	1 mg	<i>E. coli</i>
Rat TNF-α	400-14	5 µg	20 µg	1 mg	<i>E. coli</i>
Human TNF-β	300-01B	5 µg	20 µg	1 mg	<i>E. coli</i>
Human sTNF Receptor Type I	310-07	5 µg	20 µg	1 mg	<i>E. coli</i>
Human sTNF Receptor Type II	310-12	5 µg	20 µg	1 mg	<i>E. coli</i>
Human TPO	300-18	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine TPO	315-14	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat TPO	400-34	2 µg	10 µg	1 mg	<i>E. coli</i>
Human sTRAIL/Apo2L	310-04	10 µg	50 µg	1 mg	<i>E. coli</i>
Murine TRAIL	315-19	10 µg	50 µg	1 mg	<i>E. coli</i>
Human sTRAIL Receptor-1	310-18	10 µg	50 µg	1 mg	<i>E. coli</i>
Human sTRAIL Receptor-2	310-19	10 µg	50 µg	1 mg	<i>E. coli</i>
Human TREM-1 Fc	310-36	10 µg	50 µg	1 mg	CHO cells
Human TSG	120-09	10 µg	50 µg	1 mg	<i>E. coli</i>
Human TSLP	300-62	2 µg	10 µg	1 mg	<i>E. coli</i>
Human TWEAK	310-06	5 µg	25 µg	1 mg	<i>E. coli</i>
Human TWEAK Receptor	310-21	5 µg	25 µg	1 mg	<i>E. coli</i>
Human Uteroglobulin	150-18	10 µg	50 µg	1 mg	<i>E. coli</i>
Human VAP-1	150-16	2 µg	10 µg	1 mg	CHO cells
Human Vaspin	130-11	5 µg	25 µg	1 mg	<i>E. coli</i>
Human VCAM-1	150-04	10 µg	50 µg	1 mg	HEK293 cells
Murine VCAM-1	315-37	10 µg	50 µg	1 mg	CHO cells
Human VEGF ₁₂₁	100-20A	2 µg	10 µg	1 mg	<i>E. coli</i>
Human VEGF ₁₆₅	100-20	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine VEGF ₁₆₅	450-32	2 µg	10 µg	1 mg	<i>E. coli</i>
Rat VEGF ₁₆₅	400-31	2 µg	10 µg	1 mg	<i>E. coli</i>
Human VEGF-B	100-20B	5 µg	20 µg	1 mg	<i>E. coli</i>
Human VEGF-C	100-20CD	5 µg	20 µg	1 mg	HEK293 cells
Human VEGF-D	100-20D	2 µg	10 µg	1 mg	HEK293 cells
Human Vimentin	110-10	20 µg	100 µg	1 mg	<i>E. coli</i>
Human Visfatin	130-09	5 µg	25 µg	1 mg	<i>E. coli</i>
Human WISP-1	120-18	5 µg	20 µg	1 mg	<i>E. coli</i>
Human WISP-3	120-20	5 µg	20 µg	1 mg	<i>E. coli</i>
Human Wnt-1	120-17	2 µg	10 µg	1 mg	<i>E. coli</i>
Murine Wnt-3a	315-20	2 µg	10 µg	NA	Cell culture
Human Wnt-7a	120-31	3 µg	15 µg	1 mg	HEK293 cells
Human Wnt-9b	120-49	5 µg	20 µg	1 mg	CHO cells

Antigen affinity-purified polyclonal and biotinylated polyclonal antibodies

Invitrogen™ PeproTech™ polyclonal antibodies are purified through the isolation of specific polyclonal antibodies from antiserum by antigen affinity chromatography. This procedure exploits the specificity of the antibody-antigen interaction and typically yields >95% pure specific antibodies. Normally, the sera from host animals, after immunization with cytokines, contain only small amounts (<5%) of cytokine-specific antibody that cannot be effectively isolated by standard purification procedures (e.g., ion exchange chromatography) or by non-antigen-specific affinity procedures, such as protein A or G affinity purification.

The large quantities of unrelated IgGs found in inferior preparations can considerably increase the background when the antibody is used in analytical procedures such as ELISA, neutralization, immunohistochemistry, and western blotting. Therefore, the use of exceptional antigen affinity-purified antibody preparations can help alleviate background in these analytical procedures.

Invitrogen™ PeproTech™ biotinylated antibodies are produced from highly pure and specific antigen affinity-purified polyclonal antibodies, and are therefore excellent for use in any analytical procedures that require biotinylated antibodies.

PeproTech polyclonal and biotinylated polyclonal antibodies*

Description	Cat. No.	Size A	Size B	Bulk	Source
Anti-Human Adiponectin	500-P239	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hAdiponectin	500-P239BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human AITRL	500-P244	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hAITRL	500-P244BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Amphiregulin	500-P322	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hAmphiregulin	500-P322BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human ApoA-1	500-P331	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hApoA-1	500-P331BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human ApoE3	500-P238	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hApoE3	500-P238BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human APRIL	500-P192	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hAPRIL	500-P192BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Artemin	500-P245	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hArtemin	500-P245BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human 4-1BB Ligand	500-P169	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-h4-1BB Ligand	500-P169BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human 4-1BB Receptor	500-P167G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-h4-1BB Receptor	500-P167GBT	25 µg	50 µg	1 mg	Goat
Anti-Human BAFF	500-P163	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hBAFF	500-P163BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human BAFF	500-P163G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hBAFF	500-P163GBT	25 µg	50 µg	1 mg	Goat
Anti-Human BCA-1 (CXCL13)	500-P141	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hBCA-1 (CXCL13)	500-P141BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human BD-1	500-P253	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hBD-1	500-P253BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human BD-2	500-P161G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hBD-2	500-P161GBT	25 µg	50 µg	1 mg	Goat
Anti-Human BD-3	500-P241	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hBD-3	500-P241BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human BD-4	500-P268	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hBD-4	500-P268BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human BD-5	500-P323	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hBD-5	500-P323BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human/Murine/Rat BDNF	500-P84	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-h/m/rBDNF	500-P84BT	25 µg	50 µg	1 mg	Rabbit

* In the names of biotinylated antibodies, h = human, m = murine, r = rat, h/m/r = human/murine/rat.

PeproTech polyclonal and biotinylated polyclonal antibodies

Description	Cat. No.	Size A	Size B	Bulk	Source
Anti-Human Betacellulin	500-P254	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hBetacellulin	500-P254BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human/Murine/Rat BMP-2	500-P195	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-h/m/rBMP-2	500-P195BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human BMP-7	500-P198	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hBMP-7	500-P198BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human BRAK (CXCL14)	500-P237	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hBRAK (CXCL14)	500-P237BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine C10 (CCL6)	500-P112	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mC10 (CCL6)	500-P112BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Cardiotrophin-1	500-P101	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hCardiotrophin-1	500-P101BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human sCD14	500-P320	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hsCD14	500-P320BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human sCD22	500-P227	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hsCD22	500-P227BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human sCD34	500-P327	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hsCD34	500-P327BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human sCD40 Ligand	500-P142G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hsCD40 Ligand	500-P142GBT	25 µg	50 µg	1 mg	Goat
Anti-Human CNTF	500-P140	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hCNTF	500-P140BT	25 µg	50 µg	1 mg	Rabbit
Anti-Rat CNTF	500-P79	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-rCNTF	500-P79BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human CRP	500-P242	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hCRP	500-P242BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human CTACK (CCL27)	500-P294	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hCTACK (CCL27)	500-P294BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human CTGF	500-P252	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hCTGF	500-P252BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human CTGFL/WISP-2	500-P212	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hCTGFL/WISP-2	500-P212BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human CXCL16	500-P200	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hCXCL16	500-P200BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine CXCL16	500-P201G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-mCXCL16	500-P201GBT	25 µg	50 µg	1 mg	Goat
Anti-Human sDLL-4	500-P279	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hsDLL-4	500-P279BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human EGF	500-P45	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hEGF	500-P45BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine EGF	500-P174G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-mEGF	500-P174GBT	25 µg	50 µg	1 mg	Goat
Anti-Rat EGF	500-P277	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-rEGF	500-P277BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human EGF Receptor (EGFR)	500-P306	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hEGF Receptor (EGFR)	500-P306BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human EG-VEGF	500-P188G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hEG-VEGF	500-P188GBT	25 µg	50 µg	1 mg	Goat
Anti-Human EMAP-II	500-P172G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hEMAP-II	500-P172GBT	25 µg	50 µg	1 mg	Goat
Anti-Human ENA-78 (CXCL5)	500-P91	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hENA-78 (CXCL5)	500-P91BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Endostatin	500-P262	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hEndostatin	500-P262BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Eotaxin (CCL11)	500-P41	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hEotaxin (CCL11)	500-P41BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Eotaxin (CCL11)	500-P41G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hEotaxin (CCL11)	500-P41GBT	25 µg	50 µg	1 mg	Goat

PeproTech polyclonal and biotinylated polyclonal antibodies

Description	Cat. No.	Size A	Size B	Bulk	Source
Anti-Murine Eotaxin (CCL11)	500-P67	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mEotaxin (CCL11)	500-P67BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Eotaxin-2 (CCL24)	500-P103G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hEotaxin-2 (CCL24)	500-P103GBT	25 µg	50 µg	1 mg	Goat
Anti-Murine Eotaxin-2 (CCL24)	500-P175G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-mEotaxin-2 (CCL24)	500-P175GBT	25 µg	50 µg	1 mg	Goat
Anti-Human Eotaxin-3 (CCL26)	500-P156G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hEotaxin-3 (CCL26)	500-P156GBT	25 µg	50 µg	1 mg	Goat
Anti-Human EPO	500-P318	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hEPO	500-P318BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Exodus-2 (CCL21)	500-P109	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hExodus-2 (CCL21)	500-P109BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine Exodus-2 (CCL21)	500-P114	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mExodus-2 (CCL21)	500-P114BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human sFas Ligand	500-P184G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hsFas Ligand	500-P184GBT	25 µg	50 µg	1 mg	Goat
Anti-Human sFas Receptor	500-P295	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hsFas Receptor	500-P295BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human FGF-Acidic	500-P17	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hFGF-Acidic	500-P17BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human FGF-Basic	500-P18	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hFGF-Basic	500-P18BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human FGF-4	500-P158	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hFGF-4	500-P158BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine FGF-9	500-P66	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mFGF-9	500-P66BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human FGF-10	500-P151G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hFGF-10	500-P151GBT	25 µg	50 µg	1 mg	Goat
Anti-Human FGF-16	500-P160G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hFGF-16	500-P160GBT	25 µg	50 µg	1 mg	Goat
Anti-Human FGF-17	500-P152	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hFGF-17	500-P152BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human FGF-23	500-P319	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hFGF-23	500-P319BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human FGF-17	500-P152G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hFGF-17	500-P152GBT	25 µg	50 µg	1 mg	Goat
Anti-Human Flt3-Ligand	500-P42	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hFlt3-Ligand	500-P42BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Follistatin	500-P207	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hFollistatin	500-P207BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Fractalkine (CX3CL1)	500-P98	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hFractalkine (CX3CL1)	500-P98BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human gAcrp30/Adipolean	500-P193G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hgAcrp30/Adipolean	500-P193GBT	25 µg	50 µg	1 mg	Goat
Anti-Human gAcrp30/Adipolean Variant	500-P205	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hgAcrp30/Adipolean Variant	500-P205BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Galectin-1	500-P210	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hGalectin-1	500-P210BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Galectin-3	500-P246	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hGalectin-3	500-P246BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human GCP-2 (CXCL6)	500-P120	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hGCP-2 (CXCL6)	500-P120BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human G-CSF	500-P43	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hG-CSF	500-P43BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine G-CSF	500-P69	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mG-CSF	500-P69BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human GDF-3	500-P235	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hGDF-3	500-P235BT	25 µg	50 µg	1 mg	Rabbit

PeproTech polyclonal and biotinylated polyclonal antibodies

Description	Cat. No.	Size A	Size B	Bulk	Source
Anti-Human GDNF	500-P81	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hGDNF	500-P81BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human GM-CSF	500-P33	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hGM-CSF	500-P33BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine GM-CSF	500-P65	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mGM-CSF	500-P65BT	25 µg	50 µg	1 mg	Rabbit
Anti-Rat GM-CSF	500-P225	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-rGM-CSF	500-P225BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human GRO-α/MGSA (CXCL1)	500-P92	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hGRO-α/MGSA (CXCL1)	500-P92BT	25 µg	50 µg	1 mg	Rabbit
Anti-Rat GRO/KC (CXCL1)	500-P74	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-rGRO/KC (CXCL1)	500-P74BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human GRO-β (CXCL2)	500-P104	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hGRO-β (CXCL2)	500-P104BT	25 µg	50 µg	1 mg	Rabbit
Anti-Rat GRO-β/MIP-2 (CXCL2)	500-P75	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-rGRO-β/MIP-2 (CXCL2)	500-P75BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human GRO-γ (CXCL3)	500-P105	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hGRO-γ (CXCL3)	500-P105BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human HB-EGF	500-P329	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hHB-EGF	500-P329BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human HCC-1 (CCL14)	500-P106	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hHCC-1 (CCL14)	500-P106BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Heregulin β-1	500-P288	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hHeregulin β-1	500-P288BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human I-309 (CCL1)	500-P110	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hI-309 (CCL1)	500-P110BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human ICAM-1	500-P287	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hICAM-1	500-P287BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IFN-β	500-P32B	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIFN-β	500-P32BBT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IFN-γ	500-P32	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIFN-γ	500-P32BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine IFN-γ	500-P119	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mIFN-γ	500-P119BT	25 µg	50 µg	1 mg	Rabbit
Anti-Rat IFN-γ	500-P122	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-rIFN-γ	500-P122BT	25 µg	50 µg	1 mg	Rabbit
Anti-Rat IFN-γ	500-P122G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-rIFN-γ	500-P122GBT	25 µg	50 µg	1 mg	Goat
Anti-Human IFN-λ2	500-P247	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIFN-λ2	500-P247BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IGF-I	500-P11	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIGF-I	500-P11BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine IGF-I	500-P157G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-mIGF-I	500-P157GBT	25 µg	50 µg	1 mg	Goat
Anti-Human IGF-II	500-P12	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIGF-II	500-P12BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IGF-BP1	500-P228	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIGF-BP1	500-P228BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IGF-BP3	500-P230	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIGF-BP3	500-P230BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IGF-BP5	500-P232	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIGF-BP5	500-P232BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IGF-BP7	500-P234	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIGF-BP7	500-P234BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IL-1α	500-P21A	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-1α	500-P21ABT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine IL-1α	500-P51A	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mIL-1α	500-P51ABT	25 µg	50 µg	1 mg	Rabbit

PeproTech polyclonal and biotinylated polyclonal antibodies

Description	Cat. No.	Size A	Size B	Bulk	Source
Anti-Rat IL-1 α	500-P180G	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-rIL-1 α	500-P180GBT	25 μ g	50 μ g	1 mg	Goat
Anti-Human IL-1 β	500-P21BG	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-hIL-1 β	500-P21BGBT	25 μ g	50 μ g	1 mg	Goat
Anti-Murine IL-1 β	500-P51	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-mIL-1 β	500-P51BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Rat IL-1 β	500-P80	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-rIL-1 β	500-P80BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human IL-1RA	500-P209	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hIL-1RA	500-P209BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human IL-2	500-P22	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hIL-2	500-P22BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human IL-2	500-P22G	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-hIL-2	500-P22GBT	25 μ g	50 μ g	1 mg	Goat
Anti-Murine IL-2	500-P111	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-mIL-2	500-P111BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Rat IL-2	500-P274	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-rIL-2	500-P274BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human sIL-2 Receptor α	500-P22R	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hsIL-2 Receptor α	500-P22RBT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human IL-3	500-P23	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hIL-3	500-P23BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Murine IL-3	500-P53	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-mIL-3	500-P53BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Rat IL-3 β	500-P177G	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-rIL-3 β	500-P177GBT	25 μ g	50 μ g	1 mg	Goat
Anti-Human IL-4	500-P24	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hIL-4	500-P24BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Murine IL-4	500-P54	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-mIL-4	500-P54BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Rat IL-4	500-P94	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-rIL-4	500-P94BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human sIL-4 Receptor α	500-P325	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hsIL-4 Receptor α	500-P325BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human IL-5	500-P25	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hIL-5	500-P25BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Murine IL-5	500-P55	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-mIL-5	500-P55BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human IL-6	500-P26	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hIL-6	500-P26BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human IL-6	500-P26G	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-hIL-6	500-P26GBT	25 μ g	50 μ g	1 mg	Goat
Anti-Murine IL-6	500-P56	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-mIL-6	500-P56BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Rat IL-6	500-P73	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-rIL-6	500-P73BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Rat IL-6	500-P73G	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-rIL-6	500-P73GBT	25 μ g	50 μ g	1 mg	Goat
Anti-Human IL-7	500-P27	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hIL-7	500-P27BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Murine IL-7	500-P57	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-mIL-7	500-P57BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Rat IL-7	500-P310	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-rIL-7	500-P310BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human IL-8 (CXCL8)	500-P28	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hIL-8 (CXCL8)	500-P28BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human IL-9	500-P29	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hIL-9	500-P29BT	25 μ g	50 μ g	1 mg	Rabbit

PeproTech polyclonal and biotinylated polyclonal antibodies

Description	Cat. No.	Size A	Size B	Bulk	Source
Anti-Murine IL-9	500-P59	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mIL-9	500-P59BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IL-10	500-P20	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-10	500-P20BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine IL-10	500-P60	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mIL-10	500-P60BT	25 µg	50 µg	1 mg	Rabbit
Anti-Rat IL-10	500-P139	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-rIL-10	500-P139BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IL-11	500-P01	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-11	500-P01BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IL-12	500-P154HG	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hIL-12	500-P154HGBT	25 µg	50 µg	1 mg	Goat
Anti-Human IL-12	500-P154G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hIL-12	500-P154GBT	25 µg	50 µg	1 mg	Goat
Anti-Murine IL-12	500-P155G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-mIL-12	500-P155GBT	25 µg	50 µg	1 mg	Goat
Anti-Human IL-13	500-P13	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-13	500-P13BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine IL-13	500-P178	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mIL-13	500-P178BT	25 µg	50 µg	1 mg	Rabbit
Anti-Rat IL-13	500-P224	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-rIL-13	500-P224BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IL-15	500-P15	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-15	500-P15BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine IL-15	500-P173	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mIL-15	500-P173BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IL-16	500-P06	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-16	500-P06BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IL-17A	500-P07	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-17A	500-P07BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IL-17A	500-P07G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hIL-17A	500-P07GBT	25 µg	50 µg	1 mg	Goat
Anti-Murine IL-17A	500-P265	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mIL-17A	500-P265BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IL-17B	500-P248	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-17B	500-P248BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IL-17D	500-P88	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-17D	500-P88BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IL-17E	500-P89	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-17E	500-P89BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IL-17F	500-P90	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-17F	500-P90BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine IL-18BP	500-P153G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-mIL-18BP	500-P153GBT	25 µg	50 µg	1 mg	Goat
Anti-Human IL-19	500-P189	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-19	500-P189BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IL-20	500-P190G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hIL-20	500-P190GBT	25 µg	50 µg	1 mg	Goat
Anti-Human IL-21	500-P191	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-21	500-P191BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine IL-21	500-P278	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mIL-21	500-P278BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IL-22	500-P211	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-22	500-P211BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine IL-22	500-P223	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mIL-22	500-P223BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IL-31	500-P249	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-31	500-P249BT	25 µg	50 µg	1 mg	Rabbit

PeproTech polyclonal and biotinylated polyclonal antibodies

Description	Cat. No.	Size A	Size B	Bulk	Source
Anti-Human IL-33	500-P261	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-33	500-P261BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IL-36γ (IL-1F9)	500-P316	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIL-36γ (IL-1F9)	500-P316BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human IP-10 (CXCL10)	500-P93	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hIP-10 (CXCL10)	500-P93BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine IP-10 (CXCL10)	500-P129	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mIP-10 (CXCL10)	500-P129BT	25 µg	50 µg	1 mg	Rabbit
Anti-Rat IP-10 (CXCL10)	500-P290	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-rIP-10 (CXCL10)	500-P290BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human I-TAC (CXCL11)	500-P132	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hI-TAC (CXCL11)	500-P132BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine JE/MCP-1(CCL2)	500-P113	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mJE/MCP-1 (CCL2)	500-P113BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine KC (CXCL1)	500-P115	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mKC (CXCL1)	500-P115BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human KGF (FGF-7)	500-P19	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hKGF (FGF-7)	500-P19BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Klotho	500-P296	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hKlotho	500-P296BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human LD78β (CCL3L1)	500-P187G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hLD78β (CCL3L1)	500-P187GBT	25 µg	50 µg	1 mg	Goat
Anti-Human LEC (CCL16)	500-P125G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hLEC (CCL16)	500-P125GBT	25 µg	50 µg	1 mg	Goat
Anti-Human Leptin	500-P86	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hLeptin	500-P86BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine Leptin	500-P68	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mLeptin	500-P68BT	25 µg	50 µg	1 mg	Rabbit
Anti-Rat Leptin	500-P185G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-rLeptin	500-P185GBT	25 µg	50 µg	1 mg	Goat
Anti-Human LIF	500-P39	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hLIF	500-P39BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human LIGHT	500-P179	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hLIGHT	500-P179BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine LIGHT	500-P308	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mLIGHT	500-P308BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine LIX (CXCL6)	500-P146	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mLIX (CXCL6)	500-P146BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Lymphotactin (XCL1)	500-P40	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hLymphotactin (XCL1)	500-P40BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Maspin	500-P270	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMaspin	500-P270BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human MCP-1 (CCL2)	500-P34	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMCP-1 (CCL2)	500-P34BT	25 µg	50 µg	1 mg	Rabbit
Anti-Rat MCP-1 (CCL2)	500-P76	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-rMCP-1 (CCL2)	500-P76BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human MCP-2 (CCL8)	500-P35	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMCP-2 (CCL8)	500-P35BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine MCP-2 (CCL8)	500-P127	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mMCP-2 (CCL8)	500-P127BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human MCP-3 (CCL7)	500-P37G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hMCP-3 (CCL7)	500-P37GBT	25 µg	50 µg	1 mg	Goat
Anti-Murine MCP-3 (CCL7)	500-P116G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-mMCP-3 (CCL7)	500-P116GBT	25 µg	50 µg	1 mg	Goat
Anti-Human MCP-4 (CCL13)	500-P04	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMCP-4 (CCL13)	500-P04BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human MCP-4 (CCL13)	500-P04G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hMCP-4 (CCL13)	500-P04GBT	25 µg	50 µg	1 mg	Goat

PeproTech polyclonal and biotinylated polyclonal antibodies

Description	Cat. No.	Size A	Size B	Bulk	Source
Anti-Murine MCP-5 (CCL12)	500-P61	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mMCP-5 (CCL12)	500-P61BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human M-CSF	500-P44	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hM-CSF	500-P44BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine M-CSF	500-P62G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-mM-CSF	500-P62GBT	25 µg	50 µg	1 mg	Goat
Anti-Human MDC (CCL22)	500-P107	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMDC (CCL22)	500-P107BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine MDC (CCL22)	500-P176	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mMDC (CCL22)	500-P176BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human MEC (CCL28)	500-P297	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMEC (CCL28)	500-P297BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human MIA	500-P243	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMIA	500-P243BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human MIA-2	500-P255	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMIA-2	500-P255BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Midkine	500-P171	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMidkine	500-P171BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human MIG (CXCL9)	500-P50	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMIG (CXCL9)	500-P50BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human MIP-1α (CCL3)	500-P38	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMIP-1α (CCL3)	500-P38BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine MIP-1α (CCL3)	500-P121	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mMIP-1α (CCL3)	500-P121BT	25 µg	50 µg	1 mg	Rabbit
Anti-Rat MIP-1α (CCL3)	500-P77	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-rMIP-1α (CCL3)	500-P77BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human MIP-1β (CCL4)	500-P38B	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMIP-1β (CCL4)	500-P38BBT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine MIP-1β (CCL4)	500-P213	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mMIP-1β (CCL4)	500-P213BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine MIP-1γ (CCL9/10)	500-P117	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mMIP-1γ (CCL9/10)	500-P117BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine MIP-2 (CXCL2)	500-P130	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mMIP-2 (CXCL2)	500-P130BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human MIP-3 (CCL23)	500-P124	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMIP-3 (CCL23)	500-P124BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human MIP-3α (CCL20)	500-P95A	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMIP-3α (CCL20)	500-P95ABT	25 µg	50 µg	1 mg	Rabbit
Anti-Human MIP-3β (CCL19)	500-P95B	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMIP-3β (CCL19)	500-P95BBT	25 µg	50 µg	1 mg	Rabbit
Anti-Human MIP-4 (CCL18)	500-P108	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMIP-4 (CCL18)	500-P108BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human MIP-5 (CCL15)	500-P123G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hMIP-5 (CCL15)	500-P123GBT	25 µg	50 µg	1 mg	Goat
Anti-Human MMP-2	500-P307	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMMP-2	500-P307BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human MMP-3	500-P324	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hMMP-3	500-P324BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Nanog	500-P236	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hNanog	500-P236BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human NAP-2 (CXCL7)	500-P03	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hNAP-2 (CXCL7)	500-P03BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human NAP-2 (CXCL7)	500-P03G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hNAP-2 (CXCL7)	500-P03GBT	25 µg	50 µg	1 mg	Goat
Anti-Human Neuroserpin	500-P271	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hNeuroserpin	500-P271BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Neurturin	500-P102	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hNeurturin	500-P102BT	25 µg	50 µg	1 mg	Rabbit

PeproTech polyclonal and biotinylated polyclonal antibodies

Description	Cat. No.	Size A	Size B	Bulk	Source
Anti-Human β -NGF	500-P85	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-h β -NGF	500-P85BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human NNT-1/BCSF-3	500-P186	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hNNT-1/BCSF-3	500-P186BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human NOV	500-P257	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hNOV	500-P257BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human NP-1	500-P126G	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-hNP-1	500-P126GBT	25 μ g	50 μ g	1 mg	Goat
Anti-Human NT-3	500-P82	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hNT-3	500-P82BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human NT-3	500-P82G	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-hNT-3	500-P82GBT	25 μ g	50 μ g	1 mg	Goat
Anti-Human NT-4	500-P83	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hNT-4	500-P83BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human Oncostatin M	500-P30	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hOncostatin M	500-P30BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human OPG	500-P149	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hOPG	500-P149BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human Osteopontin	500-P314	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hOsteopontin	500-P314BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human p16-INK4a-TAT	500-P284T	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hp16-INK4a-TAT	500-P284TBT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human PAI-1	500-P260	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hPAI-1	500-P260BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human PDGF-AA	500-P46	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hPDGF-AA	500-P46BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human PDGF-BB	500-P47	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hPDGF-BB	500-P47BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human PD-L1 Fc	500-P321	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hPD-L1 Fc	500-P321BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human Persephin	500-P138	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hPersephin	500-P138BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human PEDF	500-P263	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hPEDF	500-P263BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human PF-4 (CXCL4)	500-P05	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hPF-4 (CXCL4)	500-P05BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human PIGF-1	500-P226	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hPIGF-1	500-P226BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human PTHrP	500-P276	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hPTHrP	500-P276BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human sRANK Ligand	500-P133	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hsRANK Ligand	500-P133BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human sRANK Ligand	500-P133G	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-hsRANK Ligand	500-P133GBT	25 μ g	50 μ g	1 mg	Goat
Anti-Murine sRANK Ligand	500-P63	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-msRANK Ligand	500-P63BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human sRANK Receptor	500-P144	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hsRANK Receptor	500-P144BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human RANTES (CCL5)	500-P36	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hRANTES (CCL5)	500-P36BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Murine RANTES (CCL5)	500-P118	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-mRANTES (CCL5)	500-P118BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Rat RANTES (CCL5)	500-P78	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-rRANTES (CCL5)	500-P78BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Murine RELM α	500-P214	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-mRELM α	500-P214BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human RELM β	500-P217	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hRELM β	500-P217BT	25 μ g	50 μ g	1 mg	Rabbit

PeproTech polyclonal and biotinylated polyclonal antibodies

Description	Cat. No.	Size A	Size B	Bulk	Source
Anti-Murine RELM β	500-P215	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-mRELM β	500-P215BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human Resistin	500-P183	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hResistin	500-P183BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human Resistin	500-P183G	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-hResistin	500-P183GBT	25 μ g	50 μ g	1 mg	Goat
Anti-Murine Resistin	500-P182G	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-mResistin	500-P182GBT	25 μ g	50 μ g	1 mg	Goat
Anti-Human SCF	500-P48	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hSCF	500-P48BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human SCF	500-P48G	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-hSCF	500-P48GBT	25 μ g	50 μ g	1 mg	Goat
Anti-Murine SCF	500-P71	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-mSCF	500-P71BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Rat SCF	500-P202	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-rSCF	500-P202BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human SCGF- α	500-P162	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hSCGF- α	500-P162BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human SCGF- β	500-P99G	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-hSCGF- β	500-P99GBT	25 μ g	50 μ g	1 mg	Goat
Anti-Human SDF-1 α (CXCL12)	500-P87A	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hSDF-1 α (CXCL12)	500-P87ABT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Murine SDF-1 α (CXCL12)	500-P164G	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-mSDF-1 α (CXCL12)	500-P164GBT	25 μ g	50 μ g	1 mg	Goat
Anti-Rat SDF-1 α (CXCL12)	500-P315	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-rSDF-1 α (CXCL12)	500-P315BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human SDF-1 β (CXCL12)	500-P87BG	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-hSDF-1 β (CXCL12)	500-P87BGBT	25 μ g	50 μ g	1 mg	Goat
Anti-Murine SF-20	500-P259	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-mSF-20	500-P259BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human TACI	500-P166G	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-hTACI	500-P166GBT	25 μ g	50 μ g	1 mg	Goat
Anti-Human TARC (CCL17)	500-P97	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hTARC (CCL17)	500-P97BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human TECK (CCL25)	500-P134	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hTECK (CCL25)	500-P134BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human TFF-2	500-P312	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hTFF-2	500-P312BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human TGF- α	500-P16	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hTGF- α	500-P16BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human TGF- β 3	500-P317	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hTGF- β 3	500-P317BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human TIMP-1	500-P280	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hTIMP-1	500-P280BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human TL-1A	500-P240	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hTL-1A	500-P240BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human TNF- α	500-P31A	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hTNF- α	500-P31ABT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human TNF- α	500-P31AG	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-hTNF- α	500-P31AGBT	25 μ g	50 μ g	1 mg	Goat
Anti-Murine TNF- α	500-P64	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-mTNF- α	500-P64BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Murine TNF- α	500-P64G	50 μ g	100 μ g	1 mg	Goat
Biotinylated Anti-mTNF- α	500-P64GBT	25 μ g	50 μ g	1 mg	Goat
Anti-Rat TNF- α	500-P72	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-rTNF- α	500-P72BT	25 μ g	50 μ g	1 mg	Rabbit
Anti-Human TNF- β	500-P31B	50 μ g	100 μ g	1 mg	Rabbit
Biotinylated Anti-hTNF- β	500-P31BBT	25 μ g	50 μ g	1 mg	Rabbit

PeproTech polyclonal and biotinylated polyclonal antibodies

Description	Cat. No.	Size A	Size B	Bulk	Source
Anti-Human sTNF Receptor Type I	500-P143	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hsTNF Receptor Type I	500-P143BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human sTNF Receptor Type II	500-P168	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hsTNF Receptor Type II	500-P168BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human TPO	500-P49	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hTPO	500-P49BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human TPO	500-P49G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hTPO	500-P49GBT	25 µg	50 µg	1 mg	Goat
Anti-Human sTRAIL/Apo2L	500-P135	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hsTRAIL/Apo2L	500-P135BT	25 µg	50 µg	1 mg	Rabbit
Anti-Murine TRAIL	500-P303	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mTRAIL	500-P303BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human sTRAIL Receptor-2	500-P299	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hsTRAIL Receptor-2	500-P299BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human TSLP	500-P258	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hTSLP	500-P258BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human TWEAK	500-P137G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hTWEAK	500-P137GBT	25 µg	50 µg	1 mg	Goat
Anti-Human Uteroglobin	500-P330	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hUteroglobin	500-P330BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human VAP-1	500-P326	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hVAP-1	500-P326BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Vaspin	500-P256	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hVaspin	500-P256BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human VCAM-1	500-P300	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hVCAM-1	500-P300BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human VEGF ₁₆₅	500-P10	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hVEGF ₁₆₅	500-P10BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human VEGF ₁₆₅	500-P10G	50 µg	100 µg	1 mg	Goat
Biotinylated Anti-hVEGF ₁₆₅	500-P10GBT	25 µg	50 µg	1 mg	Goat
Anti-Murine VEGF ₁₆₅	500-P131	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-mVEGF ₁₆₅	500-P131BT	25 µg	50 µg	1 mg	Rabbit
Anti-Rat VEGF ₁₆₅	500-P275	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-rVEGF ₁₆₅	500-P275BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human VEGF-B	500-P267	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hVEGF-B	500-P267BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Visfatin	500-P222	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hVisfatin	500-P222BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Wnt-1	500-P250	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hWnt-1	500-P250BT	25 µg	50 µg	1 mg	Rabbit
Anti-Human Wnt-3a	500-P251	50 µg	100 µg	1 mg	Rabbit
Biotinylated Anti-hWnt-3a	500-P251BT	25 µg	50 µg	1 mg	Rabbit

Control antibodies

Invitrogen™ PeproTech™ control antibodies are produced from the sera of goats, mice, and rabbits that have not been previously immunized, and are purified by protein G affinity chromatography, affinity chromatography, gel filtration chromatography, ammonium sulfate precipitation, or protein A chromatography.

These immunoglobulin products can be used as control reagents for immunoassays using the respective polyclonal and monoclonal antibodies.

PeproTech control antibodies

Description	Cat. No.	Size A
Normal Goat Immunoglobulin	500-G00	1 mg
Normal Rabbit Immunoglobulin	500-P00	500 µg
Normal Mouse Immunoglobulin	500-M00	1 mg

Monoclonal antibodies

Invitrogen™ PeproTech™ monoclonal antibodies are raised against full-length recombinant antigens and have been thoroughly screened for performance in a variety of applications.

PeproTech monoclonal antibodies

Description	Cat. No.	Size	Source
Anti-Human Adiponectin	500-M126	500 µg	Mouse
Anti-Human BAFF	500-M64	500 µg	Mouse
Anti-Human BMP-4	500-M121	500 µg	Mouse
Anti-Human BMP-7	500-M123	500 µg	Mouse
Anti-Human CRP	500-M50	500 µg	Mouse
Anti-Human Eotaxin (CCL11)	500-M25	500 µg	Mouse
Anti-Human Eotaxin-2 (CCL24)	500-M31	500 µg	Mouse
Anti-Human Eotaxin-3 (CCL26)	500-M32	500 µg	Mouse
Anti-Human FGF-Basic (cell culture)	500-M38C	500 µg	Mouse
Anti-Human FGF-5	500-M40	500 µg	Mouse
Anti-Human G-CSF	500-M37	500 µg	Mouse
Anti-Human IFN-γ	500-M90	500 µg	Mouse
Anti-Human IL-1β	500-M01B	500 µg	Mouse
Anti-Human IL-2	500-M02	500 µg	Mouse
Anti-Murine IL-2	500-M127	500 µg	Rat
Anti-Rat IL-2	500-M129	500 µg	Mouse
Anti-Human sIL-2 Receptor α	500-M02R	500 µg	Mouse
Anti-Human IL-3	500-M03	500 µg	Mouse
Anti-Human IL-4	500-M04	500 µg	Mouse
Anti-Human IL-6	500-M06	500 µg	Mouse
Anti-Human IL-7	500-M07	500 µg	Mouse
Anti-Human IL-8 (CXCL8)	500-M08	500 µg	Mouse
Anti-Human IL-10	500-M86	500 µg	Mouse
Anti-Murine IL-10	500-M128	500 µg	Rat
Anti-Rat IL-10	500-M130	500 µg	Mouse
Anti-Human IL-11	500-M11	500 µg	Mouse
Anti-Human IL-12	500-M12	500 µg	Mouse
Anti-Murine IL-12	500-M59	500 µg	Rat
Anti-Human IP-10 (CXCL10)	500-M60	500 µg	Mouse
Anti-Human LEC (CCL16)	500-M43	500 µg	Mouse
Anti-Human Leptin	500-M27	500 µg	Mouse
Anti-Human MCP-1 (CCL2)	500-M71	500 µg	Mouse
Anti-Human MCP-2 (CCL8)	500-M69	500 µg	Mouse
Anti-Human MCP-3 (CCL7)	500-M73	500 µg	Mouse
Anti-Human MCP-4 (CCL13)	500-M70	500 µg	Mouse
Anti-Human MDC (CCL22)	500-M41	500 µg	Mouse
Anti-Human MIG (CXCL9)	500-M42	500 µg	Mouse
Anti-Human MIP-1α (CCL3)	500-M74	500 µg	Mouse
Anti-Human MIP-3α (CCL20)	500-M28	500 µg	Mouse
Anti-Human MIP-3β (CCL19)	500-M29	500 µg	Mouse
Anti-Human NAP-2 (CXCL7)	500-M33	500 µg	Mouse
Anti-Human β-NGF	500-M85	500 µg	Mouse
Anti-Human NT-4	500-M24	500 µg	Mouse
Anti-Human sRANK Ligand	500-M46	500 µg	Mouse
Anti-Human RANTES (CCL5)	500-M75	500 µg	Mouse
Anti-Human Resistin	500-M91	500 µg	Mouse
Anti-Human SCF	500-M44	500 µg	Mouse
Anti-Human TECK (CCL25)	500-M48	500 µg	Mouse
Anti-Human TGF-β1	500-M66	500 µg	Mouse
Anti-Human TNF-α	500-M26	500 µg	Mouse
Anti-Human sTRAIL/Apo2L	500-M49	500 µg	Mouse
Anti-Human VEGF ₁₆₅	500-M88	500 µg	Mouse

ABTS ELISA kits

Invitrogen™ PeproTech™ ABTS ELISA development kits contain the key components required for quantitative measurement of natural or recombinant proteins in a sandwich ELISA format. Each PeproTech ABTS ELISA development kit contains a capture antibody, a biotinylated detection antibody, a calibrated antigen standard, an egg white avidin-HRP conjugate, and a kit-specific protocol.

Each standard PeproTech ABTS ELISA development kit contains enough material to assay the target cytokine in approximately 1,000 ELISA plate wells.

PeproTech ABTS ELISA kits

Description	Cat. No.
Human 4-1BB Receptor	900-K208
Human BD-1	900-K202
Human BD-2	900-K172
Human BD-3	900-K210
Human BD-4	900-K435
Human Betacellulin	900-K372
Human/Murine/Rat BMP-2	900-K255
Human sCD40 Ligand	900-K145
Human CNTF	900-K158
Rat CNTF	900-K65
Human CTACK (CCL27)	900-K213
Human CTGF	900-K317
Human CXCL16	900-K230
Human EGF	900-K05
Murine EGF	900-K179
Rat EGF	900-K390
Human EG-VEGF	900-K244
Human Eotaxin (CCL11)	900-K69
Murine Eotaxin (CCL11)	900-K68
Human Eotaxin-3 (CCL26)	900-K167
Murine Exodus-2 (CCL21)	900-K132
Human FGF-Basic	900-K08
Human Follistatin	900-K299
Human G-CSF	900-K77
Murine G-CSF	900-K103
Human GM-CSF	900-K30
Murine GM-CSF	900-K55
Human GRO- α /MGSA (CXCL1)	900-K38
Rat GRO/KC (CXCL1)	900-K57
Human GRO- β (CXCL2)	900-K120
Human Heregulin β -1	900-K316
Human ICAM-1	900-K464
Human IFN- γ	900-K27
Murine IFN- γ	900-K98
Rat IFN- γ	900-K109
Human IGF-BP1	900-K315
Murine IGF-I	900-K170
Human IL-1 α	900-K11
Murine IL-1 α	900-K82
Rat IL-1 α	900-K204
Human IL-1 β	900-K95
Murine IL-1 β	900-K47
Rat IL-1 β	900-K91
Human IL-1RA	900-K474
Human IL-2	900-K12
Murine IL-2	900-K108
Rat IL-2	900-K205

PeproTech ABTS ELISA kits

Description	Cat. No.
Human IL-3	900-K13
Murine IL-3	900-K48
Human IL-4	900-K14
Murine IL-4	900-K49
Human IL-5	900-K15
Murine IL-5	900-K406
Human IL-6	900-K16
Murine IL-6	900-K50
Rat IL-6	900-K86
Human IL-7	900-K17
Human IL-8 (CXCL8)	900-K18
Human IL-9	900-K20
Human IL-10	900-K21
Murine IL-10	900-K53
Human IL-11	900-K22
Human IL-12	900-K96
Murine IL-12	900-K97
Human IL-13	900-K23
Murine IL-13	900-K207
Murine IL-15	900-K188
Human IL-17A	900-K84
Murine IL-17A	900-K392
Human IL-17E	900-K234
Human IL-17F	900-K277
Human IL-20	900-K224
Human IL-21	900-K226
Murine IL-21	900-K368
Human IL-22	900-K246
Murine IL-22	900-K257
Human IL-31	900-K347
Human IL-33	900-K398
Human IP-10 (CXCL10)	900-K39
Murine IP-10 (CXCL10)	900-K153
Rat IP-10 (CXCL10)	900-K449
Human I-TAC (CXCL11)	900-K151
Murine JE/MCP-1 (CCL2)	900-K126
Murine KC (CXCL1)	900-K127
Human Leptin	900-K90
Murine Leptin	900-K76
Human MCP-1 (CCL2)	900-K31
Rat MCP-1 (CCL2)	900-K59
Human MCP-2 (CCL8)	900-K41
Murine MCP-3 (CCL7)	900-K123
Murine M-CSF	900-K245
Murine MDC (CCL22)	900-K197
Human MIA-2	900-K357
Human Midkine	900-K190
Human MIG (CXCL9)	900-K87
Human MIP-1 α (CCL3)	900-K35
Murine MIP-1 α (CCL3)	900-K125
Rat MIP-1 α (CCL3)	900-K75
Murine MIP-1 β (CCL4)	900-K278
Murine MIP-2 (CXCL2)	900-K152
Human NAP-2 (CXCL7)	900-K40
Human Neuroserpin	900-K412
Human β -NGF	900-K60
Human NOV	900-K338
Human PAI-1	900-K383
Human PDGF-BB	900-K04
Human PIGF-1	900-K307
Human sRANK Ligand	900-K142

PeproTech ABTS ELISA kits

Description	Cat. No.
Murine sRANK Ligand	900-K233
Human RANTES (CCL5)	900-K33
Murine RANTES (CCL5)	900-K124
Rat RANTES (CCL5)	900-K72
Human Resistin	900-K235
Human SCF	900-K34
Murine SCF	900-K78
Rat SCF	900-K258
Human SDF-1 α (CXCL12)	900-K92
Human TACI	900-K216
Human TIMP-1	900-K438
Human TL-1A	900-K290
Human TNF- α	900-K25
Murine TNF- α	900-K54
Rat TNF- α	900-K73
Human TPO	900-K44
Human sTRAIL/Apo2L	900-K141
Human TSLP	900-K334
Human TWEAK	900-K149
Human VEGF ₁₆₅	900-K10
Murine VEGF ₁₆₅	900-K99
Rat VEGF ₁₆₅	900-K436

TMB ELISA kits

Invitrogen™ PeproTech™ TMB ELISA development kits contain the key components required for quantitative measurement of natural or recombinant proteins in a sandwich ELISA format. Each PeproTech TMB ELISA development kit contains a capture antibody, a biotinylated detection antibody, a calibrated antigen standard, a streptavidin-HRP conjugate, and a kit-specific protocol.

Each standard PeproTech TMB ELISA development kit contains enough material to assay the target cytokine in approximately 1,000 ELISA plate wells.

PeproTech TMB ELISA kits

Description	Cat. No.
Human BD-2	900-T172
Human/Murine/Rat BMP-2	900-T255
Human IFN- γ	900-T27
Murine IFN- γ	900-T98
Human IL-1 α	900-T11
Human IL-1 β	900-T95
Human IL-2	900-T12
Murine IL-2	900-T108
Human IL-4	900-T14
Murine IL-4	900-T49
Human IL-6	900-T16
Murine IL-6	900-T50
Human IL-8 (CXCL8)	900-T18
Murine IL-10	900-T53
Human IL-12	900-T96
Murine IL-12	900-T97
Human IL-17E	900-T234
Human IP-10 (CXCL10)	900-T39
Human MCP-1 (CCL2)	900-T31
Human MIP-1 β (CCL4)	900-T36
Human SCF	900-T34
Human TNF- α	900-T25
Murine TNF- α	900-T54
Rat TNF- α	900-T73
Human VEGF ₁₆₅	900-T10

ELISA buffer kits

PeproTech ELISA buffer kits

We offer both an Invitrogen™ PeproTech™ ABTS ELISA Buffer Kit and an Invitrogen™ PeproTech™ TMB ELISA Buffer Kit that have been specifically formulated for optimal performance when used in conjunction with PeproTech ABTS ELISA and TMB ELISA development kits, respectively. These buffer kits contain all of the necessary components to assay ten 96-well ELISA plates (included) and detailed handling instructions. All of the reagents have been filter-sterilized to minimize assay interference and maximize shelf life. These easy-to-use ELISA buffer kits can also be purchased as stand-alone products, since the plates included are not pre-coated with capture antibody. This format allows the researcher to develop and optimize an assay for use with their own capture and detection antibodies. The actual antibody concentrations and detection ranges of the ELISA will vary.



PeproTech ABTS ELISA Buffer Kit contents:

- 20X plate coating buffer (PBS)
- 1X blocking buffer
- 20X sample diluent
- 20X wash buffer
- Ready-to-use ABTS liquid substrate
- 10 sterile, uncoated 96-well ELISA plates
- 50 plate sealing films
- Buffer handling instructions

PeproTech TMB ELISA Buffer Kit contents:

- 20X plate coating buffer (PBS)
- 1X blocking buffer
- 20X sample diluent
- 20X wash buffer
- Ready-to-use TMB liquid substrate
- Ready-to-use stop solution
- 10 sterile, uncoated 96-well ELISA plates
- 50 plate sealing films
- Buffer handling instructions

Description	Cat. No.
PeproTech ABTS ELISA Buffer Kit	900-K00

Description	Cat. No.
PeproTech TMB ELISA Buffer Kit	900-T00

QC testing requirements

GMP

Our quality management system—from management of raw materials and equipment to facilities maintenance (environmental monitoring), manufacturing processes, internal audits, and inspection processes—is in compliance with relevant US FDA GMPs and all applicable regulatory and standards requirements.

We perform extensive quality control tests to verify that PeprTech PeprGMP cytokines meet rigorous standards for purity, identity, safety, activity, and consistency.

Identity and purity

- N-terminal amino acid sequence analysis
- Molecular weight determination by mass spectrometry
- Reverse-phase HPLC (RP-HPLC) analysis
- SDS-PAGE with western blotting

Protein content

- UV spectroscopy
- SDS-PAGE with western blotting (if applicable)

Safety

- Residual *E. coli* DNA testing
- Sterility: beginning, middle, and end processes
- Low endotoxin
- Mycoplasma testing

Biological activity

- Specific activity determined by product-specific *in vitro* bioassay, against reference standard and (when applicable) against WHO standards

Documentation

- Certificate of Analysis
- Certificate of Origin
- Safety Data Sheet (SDS)

RUO cytokines

PeprTech RUO cytokines are subjected to a rigorous set of quality control standards. Our quality assurance department ensures that the cytokines have consistent molecular weights, N-terminal sequences, purity, and biological activity. This quality control is dedicated to providing consistency between lots.

Authenticity

RUO cytokine products are verified by N-terminal sequence analysis, SDS-PAGE, mass spectrometry, western blot analyses against standards, and, where possible, by RP-HPLC.

Biological activity

Determined in the relevant bioassay.

Endotoxin contamination

Tested by kinetic Limulus amoebocyte lysate (LAL) assay.

Protein content

Verified by UV spectroscopy, SDS-PAGE, and, where possible, by RP-HPLC.

Purity

Verified by SDS-PAGE and, where possible, by RP-HPLC.

Sterility

All products are filter-sterilized through a 0.2 µm filter.

QC testing requirements

PeproTech antibody and ELISA development kits

PeproTech antibodies (monoclonal, polyclonal, and biotinylated) and ELISA development kits are screened for performance and quality in a variety of applications.

Antibody content

Verified by UV spectroscopy and SDS-PAGE.

ELISA

Tested by enzyme-linked immunosorbent assay (ELISA) for antibody–antigen detection and quantification of the antigen, using a solid-phase substrate such as a polystyrene plate, enzyme-coupled reagents, and additional detection materials. Extensive optimization and cross-reactivity testing are performed for ELISA development kit products.

Endotoxin contamination

Tested by kinetic LAL assay.

Immunohistochemistry (IHC) (if applicable)

Tested with an immunocoloring assay (immunoenzymatic or immunofluorescent) for specific antibody–antigen recognition in a tissue or cell sample, using an enzyme-coupled reagent and other detection materials.

Neutralization (if applicable)

Tested to determine the antibody concentration required for half-maximal inhibition (ND_{50}) of the biological activity of the corresponding antigen.

Sterility

All products are filter-sterilized through a 0.2 μm filter.

Western blot

Tested by an immunoblot assay for antibody–antigen detection and quantification, using SDS-PAGE, nitrocellulose membrane transfer, an enzyme-coupled reagent, and other detection materials.

Cell sorting tests (if applicable)

Fluorescence-based cell sorting is a specialized type of flow cytometry that utilizes fluorescent markers to identify and separate cell groups from a heterogeneous mixture.

Chemokine nomenclature

Systematic name	Functional name (mouse protein)	Responding cell type (mouse protein)	Known receptor
CXC chemokines			
CXCL1	GRO1, GRO- α , MGSA, NAP-3 (KC)	PMN	CXCR1, CXCR2
CXCL2	GRO2, GRO- β , MIP2- α (MIP-2)	PMN	CXCR1, CXCR2
CXCL3	GRO3, GRO- γ , MIP2- β (DCIP-1)	PMN	CXCR2
CXCL4	PF-4, oncostatin-A	PMN, Mo	CXCR3B
CXCL5	ENA-78	PMN	CXCR2
CXCL6	GCP-2, CKA-3 (LIX)	PMN	CXCR1, CXCR2
CXCL7	NAP-2, PBP, LDGF, MDGF	PMN	CXCR1, CXCR2
CXCL8	IL-8, GCP-1, NAP-1	PMN, Bs	CXCR1, CXCR2
CXCL9	MIG	actT [Th1], NK	CXCR3
CXCL10	IP-10 (CRG-2)	Mo, actT [Th1], NK	CXCR3
CXCL11	I-TAC, IP-9	actT [Th1], NK	CXCR3, CXCR7
CXCL12	SDF-1, SDF-1 α/β , PBSF	All cell types	CXCR4, CXCR7
CXCL13	BCA-1, BLC	B, (Mo)	CXCR5
CXCL14	BRAK, MIP-2G	PMN, mDC (B, Mo)	Unknown
CXCL15	(Lungkine)	(PMN)	Unknown
CXCL16	SR-PSOX	actT	CXCR6
CXCL17	VEGF co-regulated chemokine 1, DMC	Mo, iDC	Unknown
C chemokines			
XCL1	Lymphotactin, ATAC, SCM-1	Tr	XCR1
XCL2	SCM-1 β	Tr	XCR1
CX3C chemokines			
CX3CL1	Fractalkine, neurotactin, CX3C	Mo, actT, NK	CX3CR1
CC chemokines			
CCL1	I-309 (TCA-3)	iDC, actT [Th2], Mo (PMN)	CCR8
CCL2	MCP-1, MCAF, JE	Bs, Mo, actT, NK, iDC	CCR2, CCR4
CCL3	MIP-1 α , LD78 α	Eo, Mo, actT, NK, iDC (PMN)	CCR1, CCR4, CCR5
CCL3L1	LD78 β	Mo, actT, B	CCR1, CCR3, CCR5
CCL4	MIP-1 β , LAG-1	Mo, actT [Th1], NK, iDC	CCR5
CCL4L1	LAG-1 gene duplication	Mo	CCR1, CCR5
CCL5	RANTES	Eo, Bs, Mo, actT, NK, iDC, Tm	CCR1, CCR3, CCR4, CCR5
CCL6	(C-10)	(Mo)	CCR1
CCL7	MCP-3 (FIC)	Eo, Bs, Mo, actT, NK, iDC	CCR1, CCR2, CCR3
CCL8	MCP-2	Eo, Bs, Mo, actT, NK, iDC	CCR1, CCR2B, CCR3, CCR5
CCL9/10	(MIP-1 γ , MRP-2)	(PMN, actT)	CCR1
CCL11	Eotaxin	Eo, Bs, actT [Th2], iDC	CCR3
CCL12	(MCP-5)	(Eo, Bs, Mo, actT, NK, iDC)	CCR2
CCL13	MCP-4, CK β -10	Eo, Bs, Mo, actT, NK, iDC	CCR1, CCR2, CCR3
CCL14	HCC-1	Eo, Mo, T	CCR1, CCR3, CCR5
CCL15	MIP-5, MIP-1 δ , HCC-2, LKN-1	Mo, T	CCR1, CCR3
CCL16	LEC, HCC-4	Mo, actT [Th1]	CCR1
CCL17	TARC (ABCD-2)	actT [Th2]	CCR4
CCL18	MIP-4, DC-CK1, PARC, AMAC-1	Tr, iDC	Unknown
CCL19	MIP-3 β , ELC, exodus-3, CK β -11	Tr, actT, mDC	CCR7
CCL20	MIP-3 α , LARC, exodus-1	Tm, B, iDC, PMN	CCR6
CCL21	Exodus-2, 6Ckine, SLC	Tr, actT, mDC	CCR7
CCL22	MDC, STCP-1 (ABCD-1)	Mo, actT [Th2], NK, iDC	CCR4
CCL23	MIP-3, MPIF-1, CK β -8	PMN, Mo, Tr	CCR1
CCL24	Eotaxin-2, MPIF-2, CK β -6	Eo, Bs, actT [Th2], iDC, PMN, Tr	CCR3
CCL25	TECK	Thymocytes, Tr, iDC	CCR9
CCL26	MIP-4 α , eotaxin-3	Eo, Bs, actT [Th2], iDC	CCR3
CCL27	CTACK, ILC, eskine	actT	CCR10
CCL28	MEC	actT, Tr, Eo	CCR3, CCR10

Key											
Tm	Memory T cells	actT	Activated T cells	Tr	Resting T cells	Eo	Eosinophils	Mo	Monocytes	mDC	Mature dendritic cells
B	B cells	Bs	Basophils	T	T cells	NK	Natural killer cells	PMN	Neutrophils	iDC	Immature dendritic cells

FGF family

Name	Synonyms	Target cells (partial list)	Receptors	Function (partial list)
FGF1	Heparin-binding growth factor-1 (HBGF-1), ECGF-beta (endothelial cell growth factor-beta), FGF-acidic	Mesenchymal, neuroectodermal, and endothelial cells	All FGF receptors	Angiogenic <i>in vivo</i> , mitogenic <i>in vitro</i> , wound healing
FGF2	Heparin-binding growth factor-2 (HBGF-2), prostatropin, FGF-basic	Mesenchymal, neuroectodermal, and endothelial cells	1b, 1c, 2c, 3c, 4	Vasculogenesis, wound healing, angiogenesis, hematopoiesis, neuron survival
FGF3	Int-2	Epithelial cells that express FGF receptor 2b	2b	Mesoderm induction, angiogenesis, inner ear development
FGF4	Heparin secretory transforming protein (HST-1), transforming protein KS3, heparin-binding growth factor-4 (HBGF-4)	Cells that express FGF receptors	1c, 2c, 3c, 4	Angiogenesis, vertebrate limb development, and development of stomach cancer
FGF5	Heparin-binding growth factor-5 (HBGF-5), Smag-82	Cells that express FGF receptors	1c, 2c	Hair growth and development
FGF6	Heparin-binding growth factor-6 (HBGF-6), HST-2	Cells that express FGF receptors	1c, 2c, 4	Skeletal muscle development
FGF7	Heparin-binding growth factor-7 (HBGF-7), keratinocyte growth factor (KGF)	Keratinocytes and epithelial cells that express FGF receptor 2b	2b	Keratinocyte growth factor, kidney and lung development, angiogenesis, and wound healing
FGF8	Androgen-induced growth factor (AIGF), heparin-binding growth factor-8 (HBGF-8)	Mammary carcinoma cells and other cells that express FGF receptors	2c, 3c, 4 (possibly 1c)	Limb, central nervous system, and cardiac outflow tract development
FGF9	Glia activating factor (GAF), heparin-binding growth factor-9 (HBGF-9)	Glial cells, astrocyte cells, and other cells that express FGF receptors	1c, 2c, 3b, 3c, 4	Glia-activating factor, motor neuron survival, lung and testes development
FGF10	FGFA, keratinocyte growth factor-2	Epithelial cells that express FGF receptor 2b	2b	Wound healing, multi-organ development including limb and lung
FGF11	FGFB, fibroblast growth factor homologous factor-3 (FHF-3)	Nuclear processes unrelated to the secreted FGFs	None	Appears to be involved in nervous system development and function
FGF12	FGFC, fibroblast growth factor homologous factor-1 (FHF-1)	Nuclear processes unrelated to the secreted FGFs	None	Appears to be involved in nervous system development and function
FGF13	FGFD, fibroblast growth factor homologous factor-2 (FHF-2)	Nuclear processes unrelated to the secreted FGFs	None	Appears to be involved in nervous system development and function
FGF14	FGFE, fibroblast growth factor homologous factor-4 (FHF-4)	Nuclear processes unrelated to the secreted FGFs	None	Regulates central nervous system development and function
FGF15	FGFF, identified in mouse not human	Cells that express FGF receptor 4	4	Regulator of cell division and patterning in specific regions of embryonic brain, spinal cord, and sensory organs
FGF16	FGFG	Cells that express FGF receptors	2c, 3c	Central nervous system development
FGF17	FGFH	Cells that express FGF receptors	1c, 2c, 3c, 4	Signals induction and patterning of embryonic brain
FGF18	zFGF5, FGFI	Cells that express FGF receptors	1c, 2c, 3c, 4	An essential regulator of long bone and calvarial development
FGF19	FGFJ, identified in human not mouse	Cells that express FGF receptor 4	4	Expressed during brain development and during embryogenesis, regulates multiple metabolic processes in adulthood
FGF20	FGFK	Epithelial and mesenchymal cells	1c, 2c, 3c	Expressed during limb and brain development
FGF21	FGFL	Unknown at the time of printing	Unknown at the time of printing	Expressed in liver and thymus, may play a role in type 2 diabetes
FGF22	FGFM	Hair follicle keratinocytes	Unknown at the time of printing	May be involved in cutaneous development and repair, and hair development
FGF23	FGFN	Renal proximal epithelial cells	3c	Expressed in brain and thymus, regulates phosphate homeostasis, mutant in hypophosphatemic rickets, regulates multiple metabolic processes in adulthood

TGF- β superfamily

Name	Synonyms	Main function	Natural antagonists/ binding proteins
TGF- β_1	Differentiation inhibiting factor, cartilage-inducing factor	Regulates cell proliferation, growth, differentiation, and motility. Involved in adipogenesis, chondrogenesis, embryogenesis, tissue remodeling, wound healing, and tumor formation.	Follistatin, follistatin-like related gene (FLRG), decorin, alpha-2 macroglobulin
TGF- β_2	Glioblastoma-derived T cell suppressor factor, BSC-1, cetermin, polyergin	Regulates cell proliferation, growth, differentiation, and motility. Involved in adipogenesis, chondrogenesis, embryogenesis, tissue remodeling, wound healing, and tumor formation.	Decorin, alpha-2 macroglobulin
TGF- β_3	None	Regulates cell proliferation, growth, differentiation, and motility. Involved in adipogenesis, chondrogenesis, embryogenesis, tissue remodeling, wound healing, and tumor formation.	
TGF- β_4	Endometrial bleeding associated factor beta-4, EBAF, lefty preproprotein, LEFTA	Essential for left–right (L–R) asymmetry determination of organ systems. Possible role in endometrial bleeding.	
Inhibin A	Inhibin alpha and beta A	Inhibits secretion of follitropin by the pituitary gland, regulates embryogenesis, osteogenesis, hematopoiesis, reproductive physiology, and hormone secretion from the hypothalamic, pituitary, and gonadal glands.	
Inhibin B	Inhibin alpha and beta B	Inhibits secretion of follitropin by the pituitary gland, regulates embryogenesis, osteogenesis, hematopoiesis, reproductive physiology, and hormone secretion from the hypothalamic, pituitary, and gonadal glands.	
Activin A	Activin beta-A, inhibin beta-1, FRP (follicle-stimulating hormone–releasing protein), FSH-releasing extra protein, FSH-releasing factor, EDF (erythroid differentiation factor)	Regulates embryogenesis, osteogenesis, hematopoiesis, reproductive physiology, and hormone secretion from the hypothalamic, pituitary, and gonadal glands.	Follistatin, follistatin-like related gene (FLRG), GASP-1, cerberus, alpha2 macroglobulin, DAN
Activin AB	Activin beta A and beta B	Regulates embryogenesis, osteogenesis, hematopoiesis, reproductive physiology, and hormone secretion from the hypothalamic, pituitary, and gonadal glands.	
Activin B	Activin beta-B, inhibin beta-2	Regulates embryogenesis, osteogenesis, hematopoiesis, reproductive physiology, and hormone secretion from the hypothalamic, pituitary, and gonadal glands.	
Activin C	Activin beta-C, inhibin beta-C, blastocyst B1	Regulates embryogenesis, osteogenesis, hematopoiesis, reproductive physiology, and hormone secretion from the hypothalamic, pituitary, and gonadal glands.	
Activin E	Activin beta-E, inhibin beta-E	Regulates embryogenesis, osteogenesis, hematopoiesis, reproductive physiology, and hormone secretion from the hypothalamic, pituitary, and gonadal glands.	
BMP-2	BMP-2A	Induces cartilage and bone formation, plays a role in cardiac morphogenesis.	Noggin, chordin, follistatin, follistatin-like related gene (FLRG), GASP-1, DAN, cerberus, gremlin
BMP-3	Osteogenin, BMP-3A	Induces cartilage and bone formation.	
BMP-3B	GDF-10	Biological function unknown, but may play a role in differentiation of osteoblasts, augmenting BMP-2 activity.	
BMP-4	BMP2B (BMP2B1, BMP2B2, Bmp2-rs1), DVR4	Induces cartilage and bone formation, involved in mesoderm induction, tooth development, limb formation, and fracture repair.	Noggin, chordin, chordin-like/neuralin/ventroptin, follistatin, DAN, cerberus, gremlin
BMP-5	None	Induces cartilage and bone formation.	Noggin, chordin-like/neuralin/ventroptin, sclerostin/SOST
BMP-6	VGR, Vg-1–related protein	Induces cartilage and bone formation.	Noggin, chordin-like/neuralin/ventroptin, follistatin, follistatin-like related gene (FLRG), sclerostin/SOST
BMP-7	OP-1 (osteogenic protein-1)	Induces cartilage and bone formation, involved in calcium regulation and bone homeostasis. May act as an osteoinductive factor responsible for epithelial osteogenesis.	Noggin, chordin, follistatin-like related gene (FLRG), DAN, cerberus, sclerostin/SOST
BMP-8	BMP-8a, OP-2 (osteogenic protein-2)	Induces cartilage and bone formation, involved in calcium regulation and bone homeostasis. May act as an osteoinductive factor responsible for epithelial osteogenesis.	
BMP-8b	OP-2 (osteogenic protein-2)	Stimulates cartilage and bone formation, implicated in calcium regulation and bone homeostasis.	

TGF- β superfamily

Name	Synonyms	Main function	Natural antagonists/ binding proteins
BMP-9	GDF-2	May be involved in bone formation, regulates blood glucose homeostasis, potential autocrine/paracrine mediator in the hepatic reticuloendothelial system, involved in chondrogenesis.	
BMP-10	None	Plays a crucial role in trabeculation of the embryonic heart.	
BMP-11	GDF-11	Involved in the patterning of both mesodermal and neural tissues and in establishing the skeletal muscle. Acts globally to specific positional identity along the anterior/posterior axis.	Follistatin, follistatin-like related gene (FLRG), GASP-1
BMP-12	GDF-7, CDMP-3	Induces the formation of tendon and ligament tissues.	
BMP-13	GDF-6, CDMP-2	Plays a role in cartilage homeostasis, involved in embryonic skeletal development, and formation of a tendon-like tissue.	Noggin
BMP-14	GDF-5, CDMP-1	Essential for limb-cartilage and limb-joint formation in developing mice. Involved in embryonic skeletal development.	Noggin, DAN
BMP-15	GDF-9B	An oocyte-specific factor that regulates granulosa cell proliferation and differentiation, and is essential for normal follicular growth.	
GDF-1	Embryonic growth/ differentiation factor	May be involved in mediating cell differentiation events during embryonic development.	
GDF-2	BMP-9	Implicated in bone formation.	
GDF-3	Vgr-2	Embryonal carcinoma stem cell-associated marker <i>in vitro</i> and <i>in vivo</i> .	
GDF-5	CDMP-1, BMP-14	Essential for limb-cartilage and limb-joint formation in developing mice. Involved in embryonic skeletal development.	Noggin, DAN
GDF-6	BMP-13, CDMP-2	Plays a role in cartilage homeostasis involved in embryonic skeletal development and formation of a tendon-like tissue.	Noggin
GDF-7	BMP-12, CDMP-3	Induces the formation of tendon and ligament tissues.	
GDF-8	Myostatin	Regulates skeletal muscle mass.	Follistatin, follistatin-like related gene (FLRG), GASP-1
GDF-9	None	Essential for normal follicular growth.	
GDF-10	BMP-3B, BIP (bone inducing protein)	Biological function unknown, but may play a role in differentiation of osteoblasts, augmenting BMP-2 activity.	
GDF-11	BMP-11	Involved in the patterning of both mesodermal and neural tissues and in establishing the skeletal muscle. Acts globally to specific positional identity along the anterior/posterior axis.	Follistatin, follistatin-like related gene (FLRG), GASP-1
GDF-15	PLAB, placental TGF β , prostate differentiation factor (PDF), NRG-1, MIC-1 (macrophage inhibiting cytokine-1)	Possible mediator of placental control of embryonic development, may act as an autocrine regulatory molecule.	
GDNF	ATF (astrocyte-derived trophic factor)	Promotes dopamine uptake and survival and morphological differentiation of midbrain neurons.	
Artemin	ART, ARTN, enovin, neublastin	Supports the survival of all peripheral ganglia such as sympathetic, neural crest, and placodally derived sensory neurons, and dopaminergic midbrain neurons.	
Neurturin	NTN, NRTN	Promotes the development and survival of sympathetic and sensory neurons.	
Persephin	PSP, PSPN	Promotes the survival of ventral midbrain dopaminergic neurons and motor neurons, and promotes ureteric bud branching.	
LEFTY-1	LEFTYB, protein lefty B	Essential for left-right (L-R) asymmetry of organ systems.	
LEFTY-2	LEFTYA, TGF- β_4 , protein lefty A	Essential for left-right (L-R) asymmetry of organ systems.	
AMH (anti-Muellerian hormone)	MIS, Mullerian inhibiting substance	Causes regression of the Mullerian duct, inhibits the growth of tumors derived from tissues of Mullerian duct origin.	
Dorsalin (chick)	Dorsalin-1, DSL-1	Regulates cell differentiation within neural tube.	
NODAL	None	Essential for mesoderm formation and subsequent organization of axial structures.	Cerberus

Neurotrophin/neuropoietic cytokines

Functional name	Synonyms	Main neurotrophic functions (partial list)	Disease/disorder relation (partial list)	Receptors
β-NGF (beta-nerve growth factor)	NGF-β	Supports survival and maintenance of neurons in the nervous systems.	Alzheimer's, Parkinson's, diabetic peripheral neuropathy, cardiovascular diseases	LNGFR, gp140/trk, p75NTR
BDNF (brain derived neurotrophic factor)	Abrineurin	Supports survival and maintenance of neurons in the central nervous system and peripheral nervous systems.	Parkinson's, diabetic peripheral neuropathy, ALS, Huntington's	LNGFR, gp145/trkB, p75NTR
NNT-1/BCSF-3 (novel neurotrophin-1/B cell stimulating factor-3)	Cardiotrophin-like cytokine (CLCF1)	Supports survival of motor and sympathetic neurons in chick embryos.	Multifocal neuronal hypoplasia, neurodegenerative eye diseases (glaucoma), CISS (cold-induced sweating syndrome)	LIFR-β, gp130
NT-3 (neurotrophin-3)	NGF-2, HGNF	Promotes growth and survival of new and existing neurons.	Diabetic peripheral neuropathy, periodontal diseases	Trk, TrkB, TrkC, p75NTR
NT-4 (neurotrophin-4)	NT-4/NT-5	Promotes survival of peripheral sensory sympathetic neurons.	Huntington's, glaucoma	TrkB, p75NTR
GDNF (glial-derived neurotrophic factor)	ATF-1	Promotes dopamine uptake, survival, and morphological differentiation of midbrain neurons.	Parkinson's, ALS, Huntington's	RET/GFR1α-4α
MANF (mesencephalic astrocyte-derived neurotrophic factor)	ARMET, arginine-rich protein (ARP)	Promotes survival, growth, and function of dopamine-specific neurons.	Parkinson's, cancer	Unknown at time of printing
CDNF (cerebral dopamine neurotrophic factor)	ARMETL1	Promotes survival, growth, and function of dopamine-specific neurons.	Parkinson's	Unknown at time of printing
CNTF (ciliary neurotrophic factor)	None	Promotes survival of ciliary neurons, primary sensory neurons, motor neurons, basal forebrain neurons, and type 2 astrocytes.	ALS, Huntington's	CNTFR-α
IL-6 (interleukin-6)	26 kDa protein, IFN-β2, B-cell differentiation factor (BCDF), BSF-2, HPGF, HSF, MGI-2	Involved in inflammation associated with Alzheimer's disease.	Diabetes, atherosclerosis, Alzheimer's, depression, rheumatoid arthritis, systematic lupus, cancer, MS	IL-6Ra, gp130
Oncostatin M	OSM	Involved in the regulation of neurogenesis.	Rheumatoid arthritis, atherosclerosis, cancer, TEL/JAK2 disease	LIFR-high affinity, gp130-low affinity
Cardiotrophin-1	CT-1	Enhances survival of different neuronal populations.	Motor neuron diseases (MND), cardiovascular diseases	gp130, LIFR
IL-11 (interleukin-11)	AGIF (adipogenesis inhibitory factor)	Survival of oligodendrocytes, involved in inflammation associated with MS.	Atherosclerosis, MS	IL-11Ra, gp130
LIF (leukemia inhibitory factor)	Differentiation-stimulating factor, D-factor, melanoma-derived LPL inhibitor (MLPLI)	Promotes stimulation of differentiation of cholinergic nerves.	Systemic lupus, cancer, epidermal hyperplasia in ALS	LIFR
Pleiotrophin	PTN, heparin affinity regulatory protein (HARP), heparin-binding growth factor-8 (HBGF-8), osteoblast-specific factor-1 (OSF-1)	Promotes neurite outgrowth.	Angiogenesis, Parkinson's, cancer	ALK
Midkine	MK, NEGF-2	Promotes neurite outgrowth.	Alzheimer's, cancer	ALK
Neurturin	NTN, NRTN	Promotes survival of sympathetic and sensory neurons.	Parkinson's	Prefers RET/GFR2α
Artemin	ART, ARTN, enovin, neublastin	Promotes the survival of sympathetic, neural crest, placodally derived sensory neurons, and dopaminergic midbrain neurons.	Chronic pain	Prefers RET/GFR3α
Persephin	PSP, PSPN	Promotes the survival of ventral midbrain dopaminergic neurons and motor neurons after sciatic nerve axotomy.	Alzheimer's	Prefers RET/GFR4α

TNF nomenclature

TNF superfamily: ligands

Nomenclature name	Functional names
TNFSF1	TNF- β , lymphotoxin- α (LT- α), TNFSF1B
TNFSF2	TNF- α , cachectin, DIF, necrosin, cytotoxin, TNFSF1A
TNFSF3	Lymphotoxin- β (LT- β), TNF-C
TNFSF4	OX40 ligand (OX40L), Gp34, TXGP1, CD252
TNFSF5	CD40 ligand (CD40L), TRAP, Gp39, CD154, T-BAM
TNFSF6	Fas ligand (FasL), APTL, APT1LG1, CD95L, CD178
TNFSF7	CD70, CD27 ligand (CD27L, CD27LG)
TNFSF8	CD30 ligand (CD30L, CD30LG), CD153
TNFSF9	4-1BB ligand (4-1BBL), CD137L
TNFSF10	TRAIL, Apo2 ligand (Apo2L), CD253
TNFSF11	RANK ligand (RANKL), TRANCE, OPGL, ODF, CD254
TNFSF12	TWEAK, Apo3 ligand (Apo3L), DR3LG
TNFSF13	APRIL, TALL-2, TRDL-1, CD256
TNFSF13B	BAFF, BlyS, TALL-1, CD257, TNFSF20, THANK, ZTNF4
TNFSF14	LIGHT, HVEM-ligand (HVEM-L), CD258
TNFSF15	TL1A, TL1, VEGI
TNFSF18	AITR ligand (AITRL), TL-6, GITR ligand (GITRL)

TNF superfamily: receptors

Nomenclature name	Functional names
TNFRSF1A	TNF receptor type I (TNFR1), CD120a, p55, p60, TNFAR
TNFRSF1B	TNF receptor type II (TNFR2), CD120b, p75, p80
TNFRSF3	TNF receptor type III (TNFR3), lymphotoxin- β receptor, TNFR2-RP, TNFCR
TNFRSF4	OX40L receptor, ACT35, TXGP1R, CD134
TNFRSF5	Bp50, CD40L receptor, CDw40, CD40
TNFRSF6	FASLG receptor, CD95, Apo-1
TNFRSF6B	DcR3, M68
TNFRSF7	CD27, CD27L receptor, T14
TNFRSF8	CD30, CD30L receptor, Ki-1
TNFRSF9	4-1BBL receptor, CDw137, CD137, T cell antigen ILA
TNFRSF10A	DR4, Apo2, TRAIL receptor 1 (TRAILR1), CD261
TNFRSF10B	DR5, TRAIL receptor 2 (TRAILR2), CD262, KILLER, TRICK2A, TRICKB
TNFRSF10C	DcR1, TRAIL receptor 3 (TRAILR3), CD263
TNFRSF10D	DcR2, TRAIL receptor 4 (TRAILR4), CD264
TNFRSF11A	RANK receptor (RANKR), ODFR, CD265, ODAR, TRANCE receptor
TNFRSF11B	Osteoprotegerin (OPG), OCIF, TR1
TNFRSF12	DR3, TNFRSF25, Apo3, AIR, TRAMP, LARD, WSL, WSL-1
TNFRSF13B	TACI, CD267
TNFRSF13C	BAFF receptor (BAFFR), CD268, BlyS receptor 3
TNFRSF14	HVEM, TR2, HveA, CD270, ATAR
TNFRSF16	NGF receptor (NGFR), Gp80-LNGFR, p75NTR, p75 ICD, CD271
TNFRSF17	BCMA, CD269
TNFRSF18	AITR, GITR, CD357
TNFRSF19	TRADE
TNFRSF19L	RELT
TNFRSF21	DR6, CD358
TNFRSF22	SOBa, TNFRH2
TNFRSF23	SO, TNFRH1

VEGF/PDGF family

Functional name	Synonyms	Expression (partial list)	Function	Receptors (selected list)
VEGF-A ₁₂₁	Vascular permeability factor (VPF)	All vascularized tissues	Angiogenesis, induces endothelial cell proliferation, and cell migration, osteoclastogenesis	VEGFR-1,-2
VEGF-A ₁₄₅	Vascular permeability factor (VPF)	All vascularized tissues	Angiogenesis, induces endothelial cell proliferation, vasculogenesis, permeabilization of blood vessels, osteoclastogenesis	VEGFR-1,-2, HSPG, neuropilin-1
VEGF-A ₁₆₅	Vascular permeability factor (VPF)	All vascularized tissues	Angiogenesis, induces endothelial cell proliferation, vasculogenesis, permeabilization of blood vessels, osteoclastogenesis	VEGFR-1,-2, HSPG, neuropilin-1,-2
VEGF-A ₁₈₉	Vascular permeability factor (VPF)	All vascularized tissues	Angiogenesis, induces endothelial cell proliferation, migration	HSPG, neuropilin-1,-2
VEGF-A ₂₀₆	Vascular permeability factor (VPF)	All vascularized tissues	Not determined at time of printing	HSPG, neuropilin-1,-2
VEGF-B ₁₆₇	VEGF-related factor (VRF)	Heart, skeletal muscle, vascular smooth muscle cells	Embryonic angiogenesis	VEGFR-1, neuropilin-1
VEGF-B ₁₈₆	VEGF-related factor (VRF)	Heart, skeletal muscle, vascular smooth muscle cells	Embryonic angiogenesis	VEGFR-1, neuropilin-2
VEGF-C	VEGF-2, vascular endothelial growth factor related protein (VRP), Flt4-ligand	Neuroendocrine organs, lung, heart, kidney, vascular smooth muscle cells	Lymphangiogenesis and tumor angiogenesis	VEGFR-2,-3, neuropilin-2
VEGF-D	c-Fos induced growth factor (FIGF)	Neuroendocrine organs, lung, heart, skeletal muscle, small intestine, vascular smooth muscle cells	Lymphangiogenesis and tumor angiogenesis	VEGFR-2,-3
VEGF-E (Orf virus)	None	Virus-derived	Induces endothelial proliferation, vascular permeability, angiogenesis	VEGFR-2, neuropilin-1 (binds NZ2-VEGF-E variant)
VEGF-F (snake venom)	None	Snake venom	Induces endothelial proliferation vascular permeability, angiogenesis	VEGFR-2
PlGF-1	Placenta growth factor-1, PGFL, PGF, PlGF	Placenta, thyroid, lung, goiter	Angiogenesis, chemotactic towards monocytes, wound healing, and tumor formation	VEGFR-1
PlGF-2	Placenta growth factor-2, PGFL	Placenta, thyroid, lung, goiter	Angiogenesis, chemotactic towards monocytes, wound healing, and tumor formation	VEGFR-1, neuropilin-1, neuropilin-2
PlGF-3	Placenta growth factor-3, PGFL	Placenta	Angiogenesis, chemotactic towards monocytes, wound healing, and tumor formation	VEGFR-1
PlGF-4	Placenta growth factor-4, PGFL	Placenta, thyroid, lung, goiter	Angiogenesis, chemotactic towards monocytes, wound healing, and tumor formation	VEGFR-1
PDGF-AA	Glioma-derived growth factor (GDGF), osteosarcoma-derived growth factor (ODGF)	α-granules, released upon platelet activation	Mitogenic factor, hyperplasia, cell migration, embryonic neuron development, angiogenesis	PDGFR-α
PDGF-BB	Glioma-derived growth factor (GDGF), osteosarcoma-derived growth factor (ODGF)	Heart, brain (substantia nigra), placenta, fetal kidney	Mitogenic factor, hyperplasia, cell migration, embryonic neuron development, angiogenesis	PDGFR-α, PDGFR-β
PDGF-AB	Glioma-derived growth factor (GDGF), osteosarcoma-derived growth factor (ODGF)	α-granules, released upon platelet activation	Mitogenic factor, hyperplasia, cell migration, embryonic neuron development, angiogenesis	PDGFR-α, PDGFR-β
PDGF-CC	Fallotein, spinal cord-derived growth factor (SCDGF)	Retinal pigment epithelia, fallopian tube, vascular smooth muscle cells in kidney, platelets, prostate, testis, uterus	Mitogenic factor, hyperplasia, cell migration, embryonic development, angiogenesis	PDGFR-α
PDGF-DD	Iris-expressed growth factor (IEGF), spinal cord-derived growth factor-B (SCDGF-B)	Heart, pancreas, adrenal gland, ovary, placenta, liver, kidney, prostate, testis, small intestine	Mitogenic factor, hyperplasia, cell migration, embryonic development, angiogenesis	PDGFR-β

Antagonists of TGF- β ligands

Natural TGF- β antagonists	Structural features contained in the antagonist polypeptide (MW)	Known TGF- β binding partners
Noggin	Unique noggin cysteine knot (26 kDa)	BMP-2, -4, -5, -6, -7, -13/GDF-6, -14/GDF-5
Chordin	4 CR/VWCC (chordin) domains, 3 SOG repeats (102 kDa)	BMP-2, -4, -7
Chordin-like/neuralin/ventroptin	3 chordin domains (51 kDa)	BMP-4, -5, -6
Follistatin	3 cysteine-rich follistatin (FS) and 3 kazal domains (38 kDa)	Activin, BMP-2, -4, -6, -7, myostatin/GDF-8, GDF-11, TGF- β 1
Follistatin-like related gene (FLRG)	2 FS and 2 kazal domains (28 kDa)	Activin, BMP-6, -7, -11, myostatin/GDF-8, GDF-11, TGF- β 1
GASP-1	1 wap, 1 FS, 1 kazal, 1 IG-like, 2 kunitz, 1 netrin domains (63 kDa)	Myostatin/GDF-8, GDF-11, activin, BMP-11
Follistatin-related protein (FSRP)	1 FS, 1 CR/VWRC, 2 EF-hand domains (35 kDa)	Activin, BMP-2, -6, -7
DAN	Unique DAN cysteine knot (19 kDa)	BMP-2, -4, -7, -14/GDF-5
Cerberus	DAN-like cysteine knot (30 kDa)	BMP-2, -4, -7, activin, nodal
Gremlin	DAN-like cysteine knot (21 kDa)	BMP-2, -4, -7
Sclerostin/SOST	Unique sclerostin cysteine knot (24 kDa)	BMP-5, -6, -7
Decorin	Multiple leucine-rich repeats (40 kDa)	TGF β -1, -2
α -2 macroglobulin	Multiple proteinase inhibitor domains (163 kDa)	TGF β -1, -2, activin, inhibin

General characteristics of plasma lipoproteins

LP particle	Size	Density (g/mL)*	TG/CE ratio*	L/P ratio*	Associated apoproteins*
CM	1,000 nm	<0.95	28.83	65.66	ApoB-48 , ApoA, ApoC, ApoE, ApoH
VLDL	70 nm	0.98	3.89	10.76	ApoE , ApoB-100, ApoC
IDL	40 nm	1.01	0.82	8.09	ApoE , ApoB-100, ApoC
LDL	20 nm	1.04	0.18	3.76	ApoB-100 , ApoC, ApoE, Apo(a)
HDL	10 nm	1.13	0.16	1.22	ApoA-I , ApoC, ApoD, ApoE

* Average values, TG: triglyceride, CE: cholesteryl ester, L/P: lipid/protein; bold represents the major apoprotein.

Classification of apoproteins

Apoprotein	MW	Function and comments
ApoA-I	29 kDa	Major protein of HDL, activates LCAT, high levels of ApoA-I are associated with a reduced risk of CHD.
ApoA-II	17.4 kDa	Primarily in HDL, inhibits hepatic lipase activity.
ApoA-IV	46 kDa	Present in fat-rich LPs.
ApoB-48	246 kDa	Derived from ApoB-100 gene by RNA editing, found exclusively in CMs, lack the LDLR binding domain of ApoB-100.
ApoB-100	513 kDa	Major protein of LDL, binds to LDLR, high levels of ApoB-100 are associated with an increased risk of CAD.
ApoC-I	7.6 kDa	Appears to be involved in activation of LCAT.
ApoC-II	8.9 kDa	Activates LPL, deficiency of ApoC-II results in accumulation of CMs and high TG levels.
ApoC-III	8.75 kDa	Inhibits LPL.
ApoD	33 kDa	Found only in HDL, closely associated with LCAT.
ApoE	34 kDa	Three known ApoE alleles (E2, E3, E4). Binds to LDLR, inhibits development of atherosclerosis, ApoE4 is associated with late-onset Alzheimer's disease.

Note: Tables found on pages 38–45 are reflective of current knowledge.

FAQs: RUO cytokines

The relevant information relating to each product appears on the Certificate of Analysis (CoA) that is shipped with the product. Please read this information carefully to obtain instructions for reconstitution and storage. If, after reading the CoA, you need additional information, please review the following set of questions and answers, or contact our quality assurance department at PeptoTech.QualityAssurance@thermofisher.com.

1. What should I know about the stability of your protein products?

Unless otherwise mentioned on the product's lot number-specific CoA, all of our products are formulated in such a manner that the lyophilized proteins are very stable at room temperature. However, we recommend storing lyophilized products at -20°C to -80°C . For reconstituted solutions of most products, we recommend short-term storage at 4°C .

For extended storage, the protein solution should be stored with a carrier protein or stabilizer (e.g., 0.1% BSA) in working aliquots and stored at -20°C to -80°C . Aliquots should be prepared to a concentration no lower than $1\ \mu\text{g}/\text{mL}$, and contain at least $10\ \mu\text{L}$, independent of concentration.

Please keep in mind that every freeze/thaw cycle may cause some denaturation of the protein; therefore, we do not recommend subjecting aliquots to more than a single freeze/thaw cycle.

2. What endotoxin level should be expected when purchasing PeptoTech proteins?

For most PeptoTech animal-free proteins, the endotoxin level is guaranteed to be less than $0.01\ \text{ng}/\mu\text{g}$ of protein or $0.1\ \text{EU}/\mu\text{g}$. For most PeptoTech non-animal-free proteins, the endotoxin level is guaranteed to be less than $0.1\ \text{ng}/\mu\text{g}$ of protein, or $1\ \text{EU}/\mu\text{g}$. However, for many proteins, the actual measured endotoxin values are consistently below this stated endotoxin level. Please contact our technical service department (PeptoTech.QualityAssurance@thermofisher.com) for more information.

3. Why can't I see the protein pellet in the vial?

Unlike many protein products available on the market, PeptoTech products are not formulated with carrier proteins or other additives (e.g., BSA, HSA, sucrose). As a result, the small amounts of protein can be deposited on the vial during lyophilization as a thin, and sometimes invisible, film. Before opening, we recommend centrifuging each vial in a microcentrifuge for 20–30 seconds to drive any protein that may be lodged in the cap or on the side to the bottom of the vial. Our quality control procedures assure that each vial contains the correct amount of product.

4. Which cytokines show cross-species activity?

With a few exceptions, most human cytokines are active on mouse cells. Many mouse cytokines are active on human cells, but may show lower specific activity than the corresponding human cytokine. The interferons, GM-CSF, IL-3, and IL-4 are known to be species-specific with very little, if any, activity on nonhomologous cells. In contrast, the FGFs and neurotrophins are very highly conserved and show excellent activity on cells of other animal species.

5. What is the relationship between the specific activity expressed as an ED_{50} and as units/mg?

While ED_{50} is defined as the cytokine concentration at which activity is 50% of the maximum response, specific activity is defined as a measurement of reaction rate (i.e., activity) in relation to the amount or mass of a substance. Specific activity units should only be used as a method of expressing potency and should only be calculated for sigmoidal dose-dependent curves. The formula for converting activity expressed as an ED_{50} in ng/mL to specific activity in units/mg is:

$$\frac{1 \times 10^6}{\text{ED}_{50} (\text{ng}/\text{mL})} = \text{specific activity (units/mg)}$$

6. What is the relationship between specific activity units and International Units of activity?

There is no direct correlation or calculation between specific activity unit and International Unit (IU) values. IU values express a quantification of activity for the base amount of a substance in relation to an analogous reference standard with an internationally accepted unit of biological potency (i.e., IU/ng) that has been assigned based on an International Collaborative Study conducted by the World Health Organization (WHO). WHO Reference Standards are made available by the National Institute for Biological Standards and Control (NIBSC). Intended to simplify the comparison of activity of a substance obtained from different sources, IU measurements can vary as comparison methods are rarely the same between sources. A true direct comparison requires standardized methods of analysis in order to guarantee comparability of the substance's activity in relation to its mass across sources.

7. How do you obtain International Units of activity?

Where possible, we obtain International Unit (IU) values through multiple side-by-side comparisons of our products against the analogous WHO Reference Standard within our biological activity assay. Performing multiple comparison tests allows us to account for any outliers due to possible variations with the assay (e.g. product, handling, assay protocol). Using the results of these comparisons, we can provide a reliable quantification of our product's activity in relation to the activity of the WHO Reference Standard.

FAQs: GMP cytokines

1. Can I use PeproTech PeproGMP cytokines for GMP manufacturing of investigational products, and for manufacturing commercial therapeutic products?

Yes, PeproTech PeproGMP cytokines are manufactured for use as ancillary materials by applying applicable principles of GMP and quality control requirements from USP (United States Pharmacopeia) Chapter <1043> Ancillary Materials for Cell, Gene, and Tissue-Engineered Products.

PeproTech PeproGMP cytokines are not, however, therapeutic products or excipients, and hence are not suitable for direct administration to humans. See USP Chapter <1043> Ancillary Materials for Cell, Gene, and Tissue-Engineered Products for more information, or contact our technical support.

2. What is the risk classification for PeproTech PeproGMP cytokines?

PeproTech PeproGMP Cytokines are classified as Tier 2 under USP Chapter <1043>:

Tier 1: Low-risk, highly qualified materials (therapeutic drug or biologic, medical device).

Tier 2: Low-risk, well-characterized materials, produced in compliance with GMPs, and intended to be used as ancillary materials.

Tier 3: Moderate risk, not for use as ancillary materials.

Tier 4: High-risk materials.

3. Is the facility where PeproTech PeproGMP cytokines are manufactured GMP certified by the FDA? Has the FDA inspected your manufacturing facilities? How would my QA department qualify PeproTech and PeproGMP cytokines?

The US FDA does not perform inspections or GMP certification of manufacturing facilities for ancillary reagents. In some countries, the national regulatory authority does inspect and certify GMP manufacturing facilities for all types of products, but FDA GMP inspections are limited to manufacturing facilities for therapeutic products and medical devices.

PeproTech PeproGMP cytokines are manufactured in accordance with relevant US GMPs. All aspects of manufacturing, testing, labeling, and packaging are stringently controlled, validated, and monitored by our QA. We provide detailed Certificates of Analysis and Certificates of Origin for all PeproGMP product lines. SDS documents are also available.

4. Are PeproTech PeproGMP cytokines animal origin-free and human origin-free?

Yes. Cytokines in the PeproGMP line are manufactured using defined media, enzymes, and chemicals, none of which are derived, at the primary level at minimum, from animal or human origin.

5. Do PeproTech PeproGMP cytokines have the same biological properties as the PeproTech research-grade cytokines I have been using for R&D studies?

Yes. PeproGMP cytokines are functionally equivalent to their research-grade counterparts.

6. How are PeproTech PeproGMP cytokines shipped?

The products are lyophilized, making them stable at a wide range of temperatures. Shipping is at ambient temperature. Upon request and at an additional cost, these products can be shipped on ice packs or dry ice.

FAQs: ELISA

1. What are the stabilities of the HRP conjugates included in PeproTech ELISA development kits (EDKs)?

The avidin-HRP included in the ABTS kits is stable for up to 1 month at 2–8°C, and up to 2 years at –20°C.

The streptavidin-HRP included in the TMB kit is stable for at least 6 months at 2–8°C.

2. How can I find cross-reactivity information for a kit?

We perform lot-specific, in-house cross-reactivity testing on our ELISA development kits. The results that have been collected from this testing are located on the kit's data sheet.

3. Is there any step of the ELISA protocol that can be left over the weekend?

The plate may be coated with the capture antibody on Friday, left at 4°C over the weekend, and resumed on Monday. Please note: changing incubation times may cause results to vary between plates.

4. Are PeproTech EDKs suitable to use with all sample types?

Although we have not tested all of our kits in every matrix available, they should be suitable for use in, but not limited to: serum, plasma, cell culture supernatant, urine, and saliva.

5. Is a stop solution necessary to stop the reaction?

A stop solution is not needed when using avidin-HRP and ABTS. In general, reliable standard curves are obtained when either OD readings do not exceed 0.2 units for the zero standard concentrations. If a stop solution is desired, 1% sodium dodecyl sulfate (SDS) may be used to end the reaction. Stop solutions are not used in our laboratory with ABTS kits.

A stop solution (1 M HCl stop solution) is recommended with all PeproTech TMB kits.

6. In addition to the 620 nm correction wavelength recommended for the TMB EDKs, can other wavelengths be used?

A correction wavelength of 540, 570, 620, or 650 nm can be used with the TMB EDKs.

FAQs: Western transfer

7. Can I use TMB with PeprTech ABTS EDKs?

PeprTech ABTS EDKs are optimized using ABTS and are, therefore, best used in conjunction with this substrate. The kit can still be used in combination with TMB, but only after some adjustments have been made:

- The avidin-HRP provided in the kit cannot be used with TMB; streptavidin must be purchased separately
- Dilutions of streptavidin will need to be optimized
- A stop solution is generally needed when using streptavidin and TMB; refer to the manufacturer's data sheet
- The TMB reaction time, prior to the addition of stop solution, will need to be optimized
- The plate is to be read at 450 nm with a correction wavelength at 620 nm when using recommended plates

8. Why is D-mannitol added to the EDK components?

D-mannitol is added to the EDK components in order to aid in protein/antibody visualization. It does not alter ELISA results.

9. Can I use the curve on the EDK data sheet as my standard curve?

A separate standard curve must be run on each ELISA plate. In other words, the curve from one plate cannot be used for a different plate. The curve that we provide on the EDK data sheet is for demonstration purposes only, as achieved in our laboratory.

10. How do you generate your standard curve?

When an ELISA is run in our lab, a Molecular Devices™ plate reader and SOFTmax™ PRO software are used. This program uses the values that are received and generates a 4-parameter curve. The equation used by the program is: 4-P fit:

$$y = \frac{A - D}{1 + \left(\frac{x}{C}\right)^B} + D$$

x = concentration (pg/mL)

y = OD (405 nm – 650 nm)

A, B, C, and D correspond to the 4 parameters.*

* For more detailed information regarding the parameters, please contact the technical support department.

1. How long will immunostaining take when your western transfer protocol is followed?

The western transfer process will take approximately 6 hours from transfer of proteins to visualization of bands.

2. What type of molecular weight marker should be used?

We use Invitrogen™ Novex™ Sharp Pre-stained Protein Standard for use in all western transfers performed in-house, although this molecular weight marker does not have to be utilized. However, it is necessary that a pre-stained molecular weight marker is used when not utilizing the ECL detection method.

3. Is the addition of a positive control necessary in a western transfer?

Yes, in order to know exactly how the protein of interest will visualize on the western transfer you must add a positive control to your gel. When using PeprTech antibodies in a western transfer, we recommend using the corresponding PeprTech recombinant protein, which was the immunizing antigen for the antibody of choice.

4. Is agitation of the membrane essential during the incubation periods?

Yes, it is essential that the membrane be agitated during the incubation periods. If the membrane is not agitated, the antibodies, blocking buffer, and washing buffer may not affect the membrane evenly and can create splotchy or patchy background. It can also limit the detection of the proteins by the antibodies.

5. Is it necessary to include the blotting paper during the protein transfer step?

Yes, it is necessary to include the blotting paper as a barrier in the protein transfer step, as it helps protect the gel and membrane from any possible damage resulting from direct contact with the sponges, yet does not interfere with the electric current.

6. Does the color development system recommended in your western transfer protocol have to be used?

No. There are many different color development systems that can be used for the visualization of the western transfer. However, the system that is chosen must be compatible with the enzyme conjugate being used. We use an alkaline phosphatase–linked secondary antibody. NBT/BCIP is suitable for use with this enzyme, and is therefore used for the visualization of our western transfers.

7. Why are some western transfer results stronger than others when using different lots of the same antibody?

Due to the nature of polyclonal antibodies, variability may be seen from lot to lot.

8. **Can an enzyme-conjugated primary antibody be used in a western transfer rather than using a primary/secondary antibody system?**
Yes, an enzyme-conjugated primary antibody can be used instead of utilizing a primary/secondary antibody system in your western transfer. However, by using a labeled secondary antibody that recognizes the antigen-specific primary antibody, there will be an amplification of the signal seen in a western transfer when compared to using the enzyme-conjugated primary antibody alone.

FAQs: Antibodies

1. **Do you test for endotoxin in PeproTech antibodies?**
We do test our antibodies for endotoxin using the kinetic chromogenic LAL method. Please contact our quality assurance department (PeproTech.QualityAssurance@thermofisher.com) for more information.
2. **Which isotype are PeproTech polyclonal antibodies?**
The polyclonal antibodies that we manufacture are predominantly IgG antibodies.
3. **How are your antibodies purified?**
All polyclonal and biotinylated polyclonal antibodies are antigen-affinity purified. Monoclonal antibody purification varies by product; please contact our quality assurance department (PeproTech.QualityAssurance@thermofisher.com) for more information.
4. **Can you tell me what epitope your antibody binds to?**
We do not perform epitope mapping at this time. As a general guideline, a polyclonal mixture of antibodies will bind to multiple epitopes on the protein of interest while each monoclonal antibody will bind to a specific epitope.
5. **Have PeproTech antibodies been tested in neutralization assays?**
Neutralization testing is performed on a lot-to-lot basis for each antibody, when available. The results of this testing can be found on the product's corresponding data sheet.
6. **Are PeproTech antibodies suitable for use in ELISA and western blot applications?**
PeproTech antibodies are suitable for use in ELISA and western blot assays; please see our individual ELISA and western blot FAQ sections for more information regarding these applications.

7. **What information should be known about the stability of your antibody products?**

PeproTech antibodies are lyophilized from PBS. As such, they are stable at room temperature for at least 1 month. For longer periods, we recommend storing the lyophilized products at -20°C to -80°C .

For reconstituted solutions of the antibodies, we recommend short-term storage at 4°C . For long-term storage, the antibody solution should first be aliquoted (to avoid more than one freeze/thaw cycle) and stored frozen at -20°C to -80°C . Frozen aliquots of this antibody solution are stable for at least 6 months when kept at -20°C to -80°C .

8. **Do PeproTech antibody products contain any carrier proteins or other additives?**
No, we do not formulate polyclonal, biotinylated polyclonal, or monoclonal antibodies with additives or carrier proteins.
9. **Will PeproTech antibodies work in immunohistochemistry and immunocytochemistry applications?**
All antibodies that have been tested so far have been found to be suitable for these applications. Please contact our quality assurance department (PeproTech.QualityAssurance@thermofisher.com) for more information.
10. **Will PeproTech antibodies recognize target proteins sold by other vendors?**
PeproTech antibody products have high binding affinity towards the natural and/or recombinant versions of the corresponding proteins. However, due to lack of authenticity sometimes found in other vendors' proteins, we cannot guarantee that our antibodies will perform as well with these proteins.
11. **Will PeproTech antibodies recognize target protein in complex biological fluids such as blood or serum?**
Yes. However, for samples that have a high content of interfering agents, the recognition will be less efficient and have a higher background, or a reduced signal-to-noise ratio may be seen.

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Ordering information

Hours of operation

Extended hours from 8:00 a.m. to 8:00 p.m. ET, Monday through Friday. To place an order or request a catalog after business hours or on weekends, you may send us a fax or visit our website.

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Method of payment

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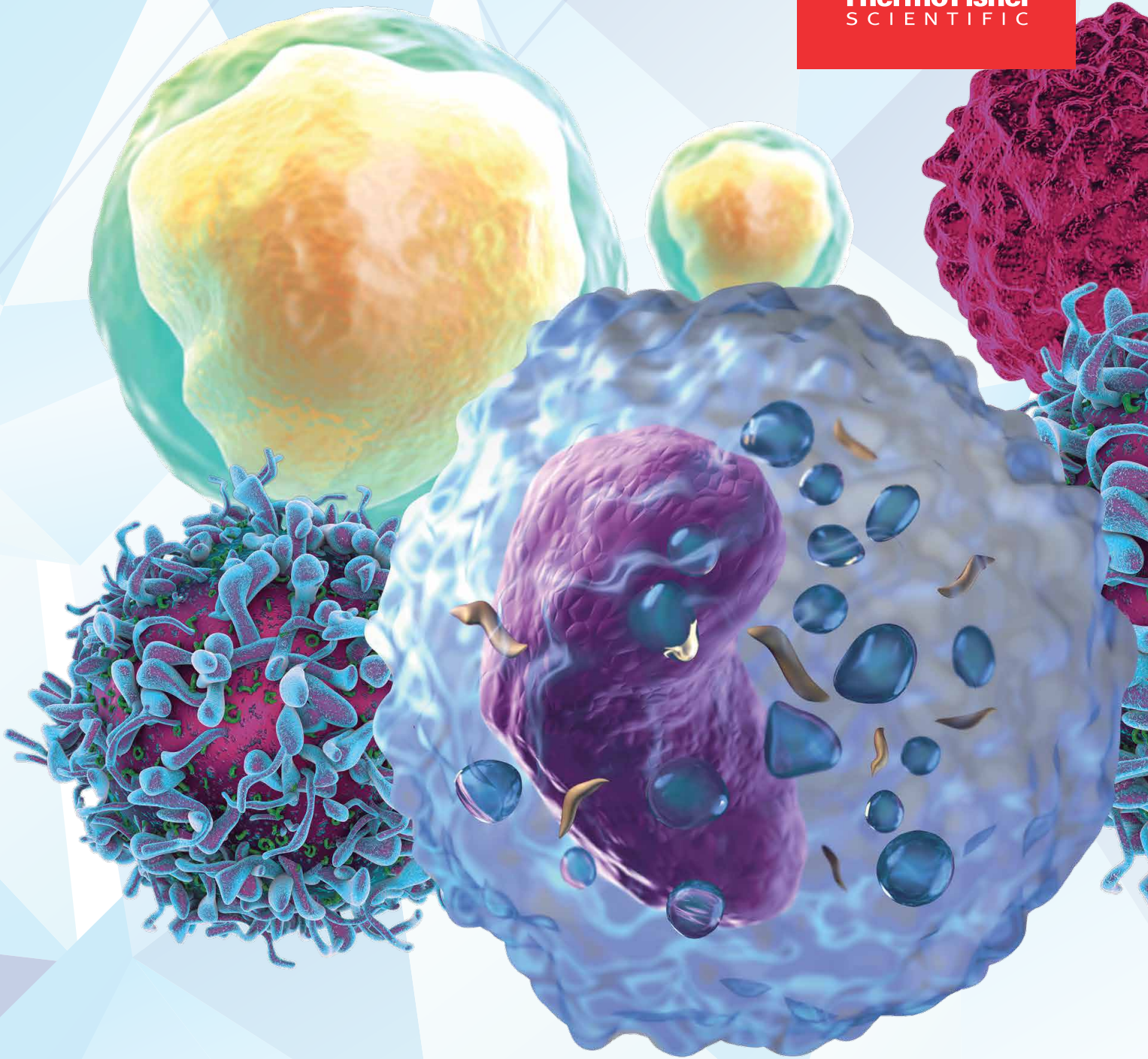
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