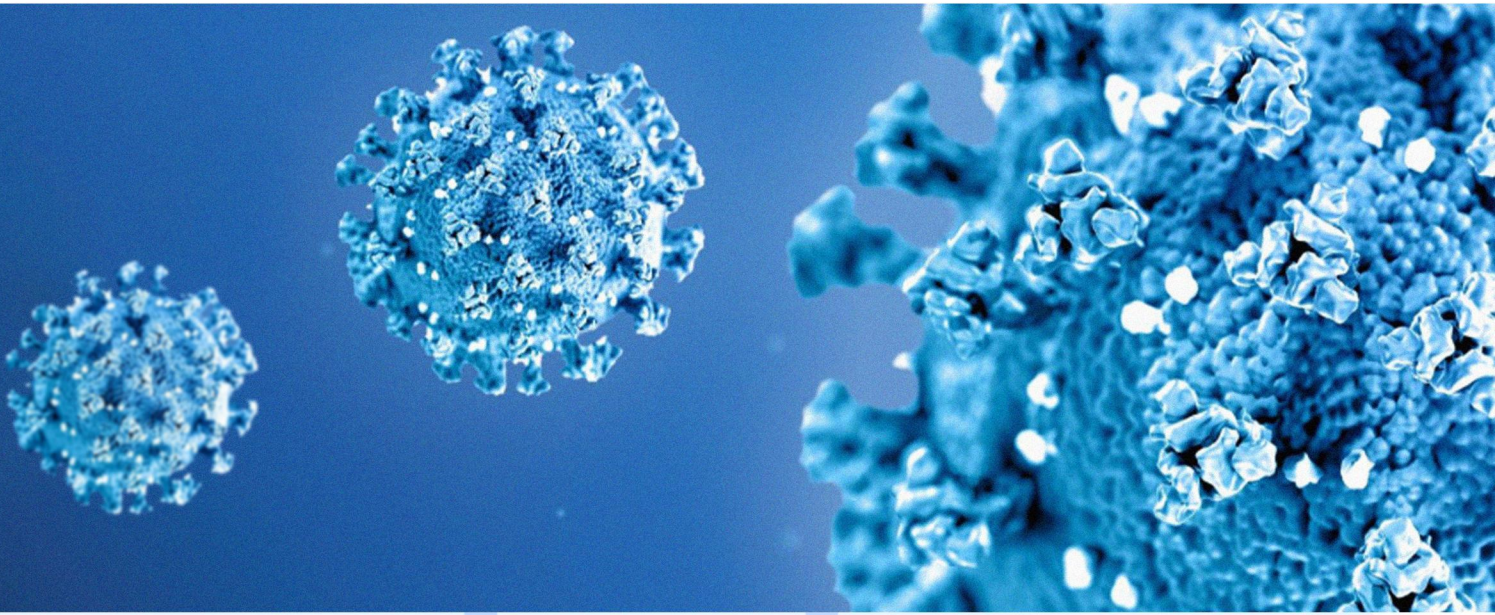


GMP Grade Cytokines

Promote cellular and genetic therapy



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T&L Biotechnology has more than ten years of research and development experience in recombinant protein expression, and can provide cytokines to meet your need.

GMP level product release standard (IL-15 as an example)

- ✓ SDS-PAGE Purity > 95%
- ✓ Activity > 5×10^6 IU/mg
- ✓ Endotoxin < 0.01 EU/ μ g
- ✓ Host cell DNA residue \leq 100 pg/mg
- ✓ Host cell protein residue \leq 100 ppm
- ✓ Detection of mycoplasma, sterility and exogenous virus
- ✓ Stability data
- ✓ Physical and chemical properties

Application area

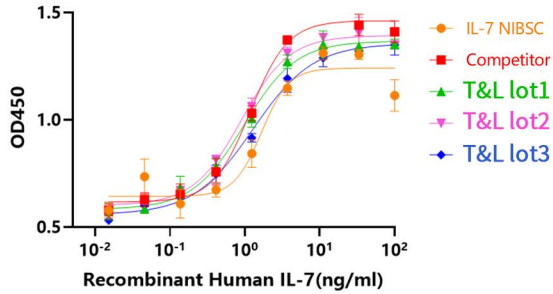


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High purity, high activity, and high lot stability.

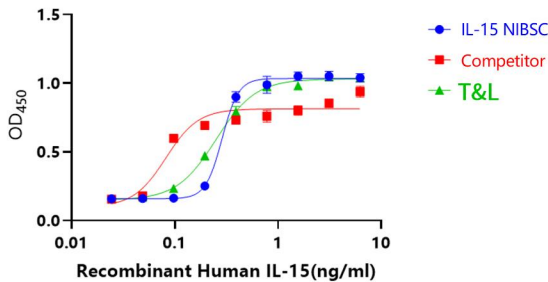
Recombinant Human IL-7 stimulates proliferation of PBMC



Recombinant human IL-7 protein (Cat.No.GMP-TL506) can stimulate the proliferation of PBMC, The specific activity of recombinant human IL-7 is $>1 \times 10^7$ IU/mg (reference standard NIBSC Code: 90 / 530)

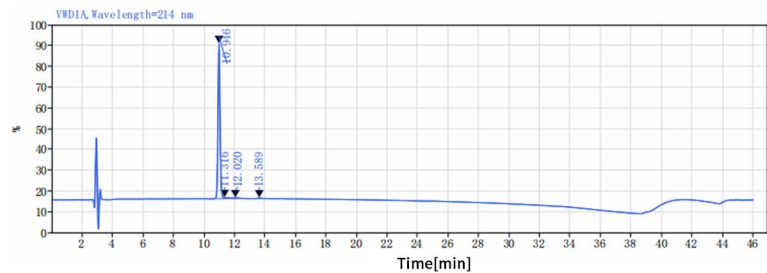
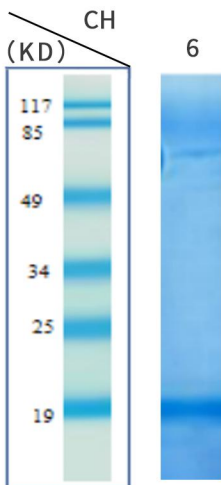
High lot stability.

Recombinant Human IL-15 stimulates proliferation of CTLL-2



Recombinant human IL-15 protein (Cat.No.GMP-TL202) can stimulate the proliferation of PBMC, The specific activity of recombinant human IL-15 is $>1 \times 10^7$ IU/mg (reference standard NIBSC Code: 90 / 530)

High purity



Signal: VWDIA,Wavelength=214 nm

Retention time (min)	Peak width	Resolution (USP)	Peak area	Peak height	Peak area (%)	Theoretical plate number (USP)
10.946	0.95		6971.7	747.46	95.56	32758.48641
11.316	0.45		110.2	5.24	1.51	
12.020	1.20		128.2	3.96	1.76	2109.51928
13.589	0.81	2.02700	85.3	3.89	1.17	11875.78482
Total			7295.37			

The purity of recombinant human TNF α protein (GMP-TL506) can reach more than 95%

Immune cell related cytokines

No.	Product name	Cat. No.	Expression Host	Size
1	Recombinant human IL-1 α protein	GMP-TL109	HEK293	10 μ g/20 μ g
2	Recombinant human IL-1 β protein	GMP-TL513	HEK293	10 μ g/100 μ g
3	Recombinant human IL-2 protein	GMP-TL906	E.coli	50 μ g
4	Recombinant human IL-4 protein	GMP-TL301	CHO	50 μ g/100 μ g
5	Recombinant human IL-6 protein	GMP-TL512	HEK293	50 μ g/100 μ g
6	Recombinant human IL-7 protein	GMP-TL506	CHO	50 μ g/100 μ g
7	Recombinant human IL-12 protein	GMP-TL508	HEK293	50 μ g/100 μ g/200 μ g
8	Recombinant human IL-15 protein	GMP-TL202	HEK293	50 μ g/100 μ g/500 μ g
9	Recombinant human IL-18 protein	GMP-TL902	E.coli	50 μ g/100 μ g
10	Recombinant human IL-21 protein	GMP-TL509	CHO	50 μ g/100 μ g
11	Recombinant human IFN- γ protein	GMP-TL105	HEK293	200 μ g
12	Recombinant human GM-CSF protein	GMP-TL302	HEK293	100 μ g
13	Recombinant human TNF α protein	GMP-TL303	HEK293	100 μ g

Stem cell related cytokines

No.	Product name	Cat. No.	Expression Host	Size
1	Recombinant human IL-3 protein	GMP-TL511	HEK293	50 μ g/100 μ g
2	Recombinant human bFGF protein	GMP-TL901	E.coli	50 μ g
3	Recombinant human VEGF 165 protein	GMP-TL612	HEK293	50 μ g/100 μ g
4	Recombinant human EGF protein	GMP-TL613	HEK293	50 μ g/100 μ g
5	Recombinant human FLT3 Ligand protein	GMP-TL505	HEK293	50 μ g
6	Recombinant human SCF protein	GMP-TL504	HEK293	50 μ g/100 μ g
7	Recombinant human PDGF-BB protein	GMP-TL644	HEK293	50 μ g/100 μ g
8	Recombinant human TGF- β 1 protein	GMP-TL643	HEK293	50 μ g/100 μ g
9	Recombinant human TGF- β 2 protein	GMP-TL645	HEK293	50 μ g
10	Recombinant human TGF- β 3 protein	GMP-TL646	HEK293	50 μ g
11	Recombinant human BMP-2 protein	GMP-TL634	HEK293	50 μ g
12	Recombinant human BMP-4 protein	GMP-TL607	HEK293	50 μ g
13	Recombinant human LIF protein	GMP-TL633	HEK293	50 μ g/100 μ g
14	Recombinant human EPO protein	GMP-TL636	HEK293	50 μ g/100 μ g
15	Recombinant human Vitronectin protein	GMP-TL651	HEK293	100 μ g
16	Recombinant human TPO protein	GMP-TL650	HEK293	50 μ g
17	Recombinant human HGF protein	GMP-TL765	HEK293	50 μ g/100 μ g
18	Recombinant human Laminin511E8 protein	GMP-TL766	HEK293	50 μ g/100 μ g
19	Recombinant human SHH(C24II) protein	GMP-TL767	E.coli	50 μ g/100 μ g
20	Recombinant human Activin A protein	GMP-TL768	E.coli	50 μ g/100 μ g
21	Recombinant human M-CSF protein	GMP-TL535	E.coli	50 μ g/100 μ g

T&L Biotechnology

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