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Technology

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Cytokines and their Receptors

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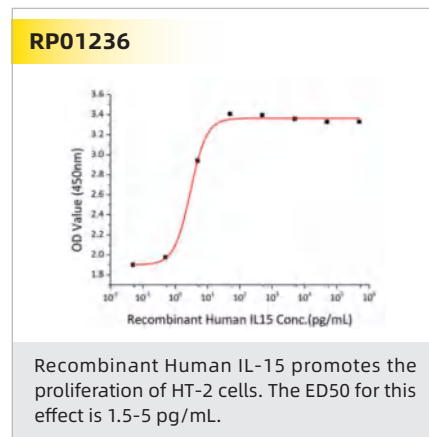
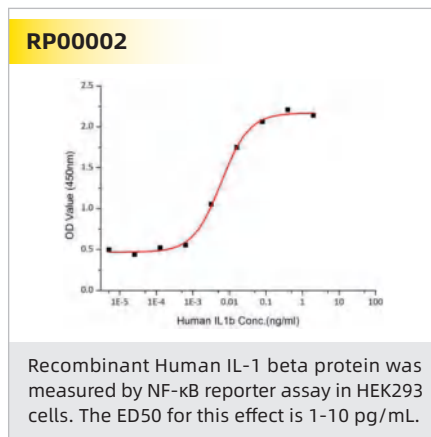
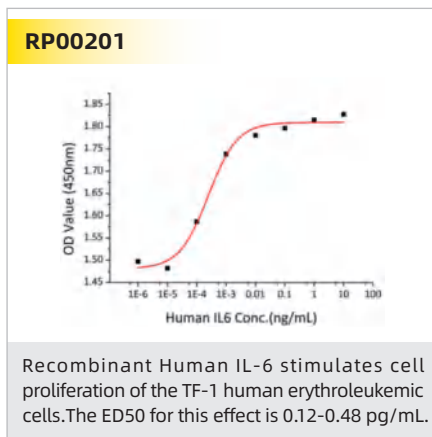
Cytokine is a class of small molecule proteins with extensive biological activities, which is synthesized and secreted by immune cells (such as monocytes, macrophages, T cells, B cells, NK cells, etc.) and some non-immune cells (such as endothelial cells, epidermal cells, fibroblasts, etc.) when stimulated. Cytokines not only act on the immune and hematopoietic systems, but also act extensively on the nervous and endocrine systems, which have an important regulatory effect on cell-to-cell interactions, cell proliferation and differentiation, and effector function. But when host immune response is abnormal, leading to a cytokine storm, it can also cause a serious pathological response.

According to the different functions of cytokines, it can be roughly divided into interleukin (IL), interferon (IFN), colony stimulating factor (CSF), tumor necrosis factor (TNF), growth factor (GF) and so on.

Interleukins and their Receptors

Interleukins (IL) are a type of cytokine expressed by leukocytes and many other body cells. They play essential roles in the activation and differentiation of immune cells, as well as proliferation, maturation, migration, and adhesion. They also have pro-inflammatory and anti-inflammatory properties. The primary function of interleukins is, therefore, to modulate growth, differentiation, and activation during inflammatory and immune responses. Interleukins consist of a large group of proteins that can elicit many reactions in cells and tissues by binding to high-affinity receptors in cell surfaces.

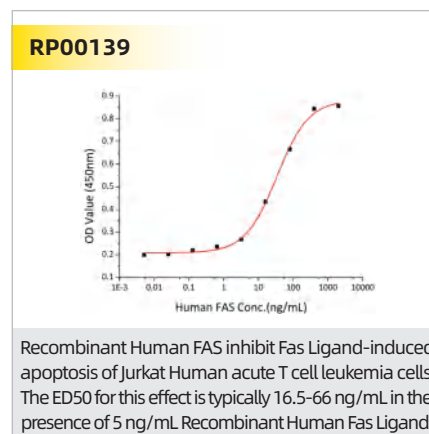
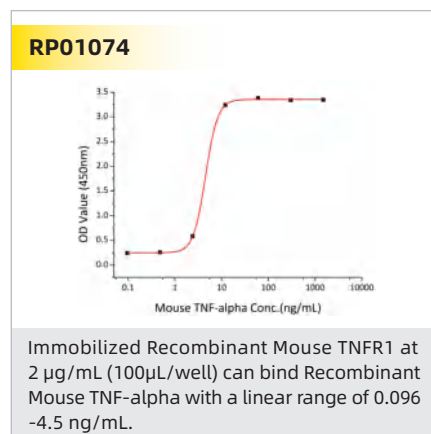
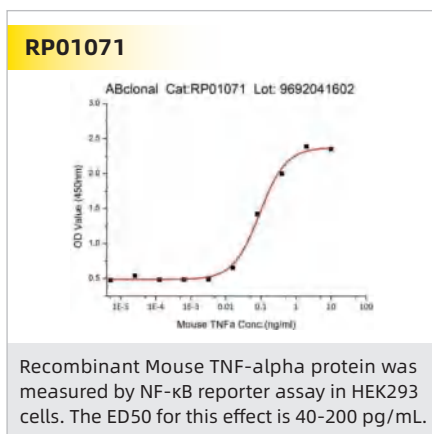
Product name	Cat.No.	Gene ID	Tag	Host cell
Active Recombinant Human IL-1 beta Protein	RP00002	3553	C-His	<i>E. coli</i>
Active Recombinant Human IL-2 Protein	RP01039	3558	C-His	HEK293 cells
Active Recombinant Human IL-3 Protein	RP01362	3562	C-His	HEK293 cells
Active Recombinant Human IL-6 Protein	RP00201	3569	C-His	HEK293 cells
Active Recombinant Human IL-11 Protein	RP00050	3589	No tag	<i>E. coli</i>
Active Recombinant Human IL-12A&IL-12B Protein	RP01232	3592&3593	C-His (IL12B), C-Flag(IL12A)	HEK293 cells
Active Recombinant Human IL-15 Protein	RP01236	3600	C-His	<i>E. coli</i>
Active Recombinant Human IL-15 Protein	RP01257	3600	C-hFc&His	HEK293 cells
Active Recombinant Human IL-17A/CTLA-8 Protein	RP00212	3605	C-His	HEK293 cells
Active Recombinant Human IL-17A/CTLA-8 Protein	RP01510	3605	N-His	Pichia
Active Recombinant Human CNTF Protein	RP00039	1270	C-His	<i>E. coli</i>
Active Recombinant Human IL-1RL1/ST2 Protein	RP00271	9173	C-His	HEK293 cells
Active Recombinant Human IL-1R2/IL-1RT2/CD121b Protein	RP00235	7850	C-hFc&His	HEK293 cells
Active Recombinant Human IL-2RA/CD25 Protein	RP00076	3559	C-His	HEK293 cells
Active Recombinant Human IL-4RA/CD124 Protein	RP00099	3566	C-His	HEK293 cells
Active Recombinant Human IL-6RA/CD126 Protein	RP00269	3570	C-His	HEK293 cells
Active Recombinant Human IL-6RA/CD126 Protein	RP01396	3570	C-hFc&His	HEK293 cells
Active Recombinant Human IL-7RA/CD127 Protein	RP00976	3575	C-hFc&His	HEK293 cells
Active Recombinant Human IL-17RA/CD217 Protein	RP00273	23765	C-His	HEK293 cells
Active Recombinant Human IL-21R/CD360 Protein	RP00177	50615	C-His	HEK293 cells



Tumor Necrosis Factors and their Receptors

Tumor necrosis factors (TNF) are a class of critical cytokine, which contributes to both physiological and pathological processes. TNF is produced chiefly by monocytes and macrophages in response especially to endotoxins. TNF mediates inflammation and induces the destruction of some tumor cells and the activation of white blood cells.

Product name	Cat.No.	Gene ID	Tag	Host cell
Active Recombinant Human TNF-alpha Protein	RP00001	7124	C-His	<i>E. coli</i>
Active Recombinant Human TNF-alpha Protein	RP00993	7124	C-His	HEK293 cells
Active Recombinant Mouse TNF-alpha Protein	RP01071	21926	C-His	HEK293 cells
Active Recombinant Human TNFSF11/RANKL/CD254 Protein	RP00183	8600	N-His	HEK293 cells
Active Recombinant Human TNFSF13B/BAFF/CD257 Protein	RP00018	10673	No tag	<i>E. coli</i>
Active Recombinant Mouse TNFRSF1A/TNF-R1/CD120a Protein	RP01074	21937	C-His	HEK293 cells
Active Recombinant Mouse TNFRSF1A/TNF-R1/CD120a Protein	RP01078	21937	C-hFc&His	HEK293 cells
Active Recombinant Human TNFRSF5/CD40 Protein	RP01214	958	C-His	HEK293 cells
Active Recombinant Human TNFRSF8/CD30 Protein	RP00106	943	C-His	HEK293 cells
Active Recombinant Human TNFRSF9/4-1BB/CD137 Protein	RP00276	3604	C-hFc&His	HEK293 cells
Active Recombinant Human TNFRSF10B/DR5/TRAIL-R2 Protein	RP00282	8795	C-His	HEK293 cells
Active Recombinant Human TNFRSF10D/DcR2/TRAIL-R4 Protein	RP00992	8793	C-hFc&His	HEK293 cells
Active Recombinant Human TNFRSF11B/Osteoprotegerin Protein	RP00180	4982	C-His	HEK293 cells
Active Recombinant Human TNFRSF12A/TWEAKR/CD266 Protein	RP00166	51330	C-hFc&His	HEK293 cells
Active Recombinant Human TNFRSF17/BCMA/CD269 Protein	RP00155	608	C-hFc&His	HEK293 cells
Active Recombinant Human FAS/APO-1/CD95 Protein	RP00139	355	C-hFc&His	HEK293 cells



Growth Factors and their Receptors

Growth factors (GF) refer to the diffusible signaling proteins that stimulate cell growth, differentiation, survival, inflammation, and tissue repair. Growth factor can exert their stimulation through endocrine, paracrine or autocrine mechanisms. Typically, the signal transduction of growth factors is initiated by binding to their receptors on the surface of target cells. The specific instruction conveyed by a growth factor to a particular subpopulation of cells depends on the type of receptors, number of target cell, and the intracellular signal transduction subsequent to factor binding.

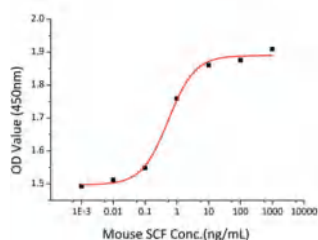
Product name	Cat.No.	Gene ID	Tag	Host cell
Active Recombinant Human TGF-beta 1 Protein	RP00161	7040	N-His	HEK293 cells
Active Recombinant Human mature TGF-beta 1 Protein	RP01458	7040	N-His	HEK293 cells
Active Recombinant Mouse TGF-beta 1 Protein	RP01167	21803	N-His	HEK293 cells
Active Recombinant Rat TGF-beta 1 Protein	RP01168	59086	N-His	HEK293 cells
Active Recombinant Human TGFR-2 Protein	RP00239	7048	C-hFc&His	HEK293 cells
Active Recombinant Human EGF Protein	RP01030	1950	C-hFc&His	HEK293 cells
Active Recombinant Human EGFR Protein	RP00210	1956	C-His	HEK293 cells
Active Recombinant Human EGFR Protein	RP01029	1956	C-hFc&His	HEK293 cells
Active Recombinant Human FGF-1/aFGF Protein	RP01242	2246	C-His	<i>E. coli</i>
Active Recombinant Human FGFR-2/KGFR/CD332 Protein	RP00046	2263	No tag	Baculovirus Insect Sf9 Cells
Active Recombinant Human FGFR-2/KGFR/CD332 Protein	RP01213	2263	C-hFc&His	HEK293 cells
Active Recombinant Human FGFR-4/CD334 Protein	RP00130	2264	C-hFc&His	HEK293 cells
Active Recombinant Human FLT-2/FGFR-1/CD331 Protein	RP01151	2260	C-hFc&His	HEK293 cells
Active Recombinant Human FLT-4/VEGFR-3 Protein	RP00123	2324	C-hFc&His	HEK293 cells
Active Recombinant Human Flt4 ligand/VEGF-C Protein	RP01173	7424	C-His	HEK293 cells
Active Recombinant Human c-Kit/CD117 Protein	RP00114	3815	C-hFc&His	HEK293 cells
Active Recombinant Human c-Kit ligand/SCF/KITLG Protein	RP00124	4254	C-His	HEK293 cells
Active Recombinant Mouse c-Kit ligand/SCF/KITLG Protein	RP01055	17311	C-His	HEK293 cells
Active Recombinant Human BDNF Protein	RP01243	627	C-His	<i>E. coli</i>
Active Recombinant Human IGF-I Protein	RP00996	3479	C-hFc&His	HEK293 cells
Active Recombinant Human IGFBP-3 Protein	RP01363	3486	C-His	HEK293 cells
Active Recombinant Human IGFBP-6 Protein	RP00145	3489	C-His	HEK293 cells
Active Recombinant Human Cripto-1/TGDF1 Protein	RP00202	6997	C-His	HEK293 cells
Active Recombinant Human TGFR-1/ALK-5 Protein	RP01408	7046	C-hFc&His	HEK293 cells

RP01458



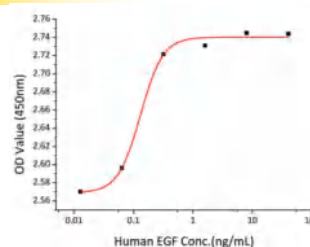
Recombinant Human mature TGF-beta 1 induces EMT in A549 cells. As the concentration of TGF-beta 1 increased, the expression of epithelial cell marker E-cad significantly downregulated.

RP01055



Recombinant Mouse SCF stimulates cell proliferation of the TF-1 human erythroleukemic cells. The ED50 for this effect is 0.5-1.0 ng/mL.

RP01030



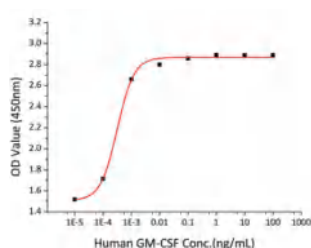
Recombinant Human EGF promotes the proliferation of BALB/c 3T3 mouse embryonic fibroblasts cells. The ED50 for this effect is typically 0.065-0.26 ng/mL.

Colony Stimulating Factors and their Receptors

Colony-stimulating factors (CSFs) are secreted glycoproteins. They bind to receptor proteins on the surfaces of hemopoietic stem cells. By doing this, CSFs activate intracellular signaling pathways that can cause the cells to proliferate and differentiate into a specific kind of blood cells. Colony-stimulating factors include CSF1 (M-CSF, macrophages), CSF2 (GM-CSF, Granulocytes and Macrophages), CSF3 (G-CSF, Granulocytes), EPO (Erythrocyte), etc.

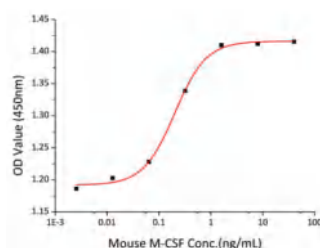
Product name	Cat.No.	Gene ID	Tag	Host cell
Active Recombinant Human CSF-1/M-CSF Protein	RP01221	1435	C-His	HEK293 cells
Active Recombinant Mouse CSF-1/M-CSF Protein	RP01216	12977	C-His	HEK293 cells
Active Recombinant Human CSF-2/GM-CSF Protein	RP00094	1437	C-His	HEK293 cells
Active Recombinant Mouse CSF-2/GM-CSF Protein	RP01206	12981	N-His	HEK293 cells
Active Recombinant Rat CSF-2/GM-CSF Protein	RP01207	116630	N-His	HEK293 cells
Active Recombinant Human Erythropoietin/EPO Protein	RP01380	2056	C-hFc	HEK293 cells
Active Recombinant Human CSF1R/M-CSF R/CD115 Protein	RP00268	1436	C-His	HEK293 cells
Active Recombinant Human CSF3R/G-CSF R/CD114 Protein	RP00270	1441	C-His	HEK293 cells
Active Recombinant Human Erythropoietin R/EPO-R Protein	RP00111	2057	C-hFc&His	HEK293 cells

RP00094



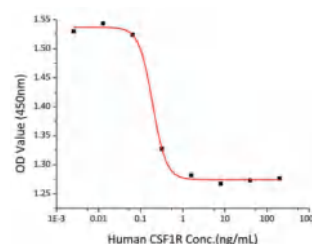
Recombinant Human GM-CSF/CSF2 stimulates cell proliferation of the TF-1 human erythroleukemic cells. The ED50 for this effect is 0.3-0.4 pg/mL.

RP01216



Recombinant Mouse M-CSF promotes the proliferation of M-NFS-60 mouse myelogenous leukemia lymphoblast cells. The ED50 for this effect is typically 0.1-0.4 ng/mL.

RP00268

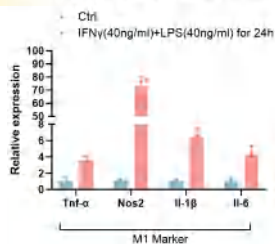
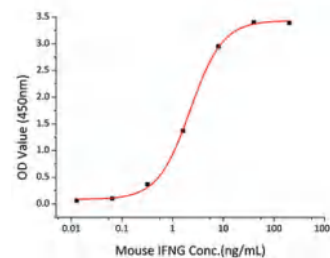
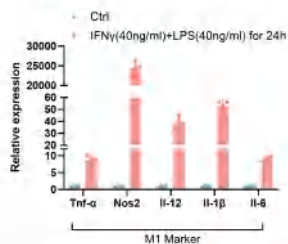


Recombinant Human CSF1R inhibits the G-CSF-induced proliferation of M-NFS-60 mouse myelogenous leukemia lymphoblast cells. The ED50 for this effect is typically 0.095-0.38 ng/mL.

Interferons and their Receptors

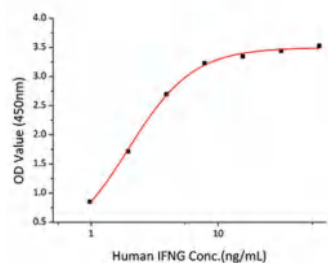
Interferons are a class of glycoproteins. They were initially named because they can interfere with the infection and replication of virus. Interferons have the function of antiviral, inhibiting cell proliferation, regulating anti-tumor immunity and so on.

Product name	Cat.No.	Gene ID	Tag	Host cell
Active Recombinant Human IFN-gamma Protein	RP01038	3458	No tag	<i>E. coli</i>
Active Recombinant Mouse IFN-gamma Protein	RP01070	15978	C-hFc&His	HEK293 cells
Active Recombinant Rat IFN-gamma Protein	RP01075	25712	C-hFc&His	HEK293 cells
Active Recombinant Human IFN-lambda 3/IL-28B Protein	RP00219	282617	C-His	HEK293 cells
Active Recombinant Human IFN-gamma R1/CD119 Protein	RP00200	3459	C-His	HEK293 cells
Active Recombinant Human IFNAR2 Protein	RP01342	3455	C-hFc&His	HEK293 cells

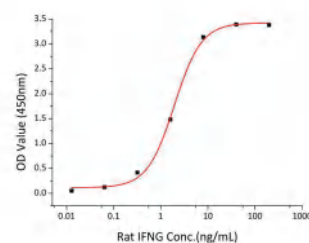
RP01070**M1 polarized stimulation of BMDM****M1 polarized stimulation of Peritoneal Macrophages**

Recombinant Mouse IFN-gamma stimulates mouse bone marrow-derived macrophages(BMDM) and peritoneal macrophages differentiation into M1 Macrophages(classically activated macrophage). The expression of the related biological markers TNF- α , Nos2, IL-1 β , and IL-6 was detected to be significantly upregulated.

Immobilized recombinant Mouse IFNGR1 at 0.2 μ g/mL (100 μ L/well) can bind recombinant Mouse IFN-gamma with a linear range of 0.06-2.22 ng/mL.

RP01038

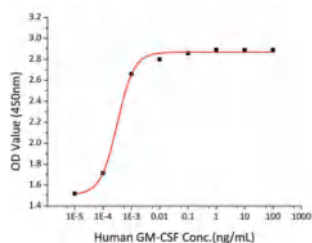
Immobilized Human IFNGR1/CD119 at 1 μ g/mL (100 μ L/well) can bind Human IFN-gamma with a linear range of 0.98-1.97 ng/mL.

RP01075

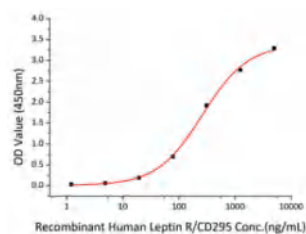
Immobilized recombinant Mouse IFNGR1 at 0.2 μ g/mL (100 μ L/well) can bind recombinant Rat IFN-gamma with a linear range of 0.06-1.94 ng/mL.

Other Cytokines

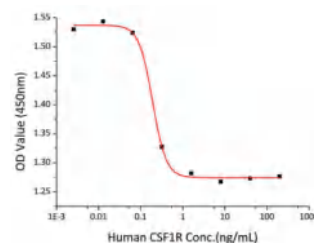
Product name	Cat.No.	Gene ID	Tag	Host cell
Active Recombinant Human Leptin/LEP Protein	RP00028	3952	No tag	<i>E. coli</i>
Active Recombinant Human Leptin receptor/LEP-R/CD295 Protein	RP01248	3953	C-hFc&His	HEK293 cells
Active Recombinant Human Leukemia inhibitory factor/LIF Protein	RP00089	3976	C-His	HEK293 cells
Active Recombinant Human Sonic hedgehog protein N-product/SHH Protein	RP00056	6469	No tag	<i>E. coli</i>

RP00089

Recombinant Human LIF stimulates cell proliferation of the TF-1 human erythroleukemic cells. The ED50 for this effect is typically 0.1-0.3 ng/mL.

RP01248

Immobilized Recombinant Human Leptin protein at 2 μ g/mL (100 μ L/well) can bind Recombinant Human Leptin R/CD295 protein with a linear range of 19.5-261.45 ng/mL.

RP00268

Recombinant Human CSF1R inhibits the G-CSF-induced proliferation of M-NF5-60 mouse myelogenous leukemia lymphoblast cells. The ED50 for this effect is typically 0.095-0.38 ng/mL.