

## ARG83005 arigoPLEX® Human CTL/NK activation Multiplex ELISA Kit (IFN gamma, TNF alpha, Perforin, Granzyme B)

Package: 96 wells  
Store at: 4°C, -20°C

### Summary

Product Description	ARG83005 arigoPLEX® Human CTL/NK activation Multiplex ELISA Kit (IFN gamma, TNF alpha, Perforin, Granzyme B) is an Enzyme Immunoassay kit for the quantification of Human Cytotoxic T cell Cytokine (IFN gamma, TNF alpha, Perforin, Granzyme B) in serum, plasma and cell culture supernatants.  <a href="#">See all Multiplex ELISA kits</a>
Tested Reactivity	Hu
Tested Application	ELISA
Target Name	CTL/NK activation
Conjugation	HRP
Conjugation Note	Substrate: TMB and read at 450 nm.
Sensitivity	IFN gamma: 15.625 pg/ml TNF alpha: 23.44 pg/ml Perforin: 93.75 pg/ml Granzyme B: 15.625 pg/ml
Sample Type	Serum, plasma and cell culture supernatants.
Standard Range	IFN gamma: 31.25 - 1000 pg/ml TNF alpha: 46.875 - 1500 pg/ml Perforin: 187.5 - 6000 pg/ml Granzyme B: 31.25 - 1000 pg/ml
Sample Volume	50 µl

### Application Instructions

Assay Time	5 hours
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### Properties

Form	96 well
Storage instruction	Store components at 4°C or -20°C. Do not expose test reagents to heat, sun or strong light during storage and usage. Please refer to the product user manual for detail temperatures of the components.
Note	For laboratory research only, not for drug, diagnostic or other use.

### Bioinformation

Gene Symbol	IFNG; TNF; PRF1; GZMB
Gene Full Name	Interferon Gamma; Tumor Necrosis Factor; Perforin 1; Granzyme B
Background	IFN gamma: This gene encodes a soluble cytokine that is a member of the type II interferon class. The

encoded protein is secreted by cells of both the innate and adaptive immune systems. The active protein is a homodimer that binds to the interferon gamma receptor which triggers a cellular response to viral and microbial infections. Mutations in this gene are associated with an increased susceptibility to viral, bacterial and parasitic infections and to several autoimmune diseases. [provided by RefSeq, Dec 2015]

**TNF alpha:**This gene encodes a multifunctional proinflammatory cytokine that belongs to the tumor necrosis factor (TNF) superfamily. This cytokine is mainly secreted by macrophages. It can bind to, and thus functions through its receptors TNFRSF1A/TNFR1 and TNFRSF1B/TNFR. This cytokine is involved in the regulation of a wide spectrum of biological processes including cell proliferation, differentiation, apoptosis, lipid metabolism, and coagulation. This cytokine has been implicated in a variety of diseases, including autoimmune diseases, insulin resistance, psoriasis, rheumatoid arthritis ankylosing spondylitis, tuberculosis, autosomal dominant polycystic kidney disease, and cancer. Mutations in this gene affect susceptibility to cerebral malaria, septic shock, and Alzheimer disease. Knockout studies in mice also suggested the neuroprotective function of this cytokine. [provided by RefSeq, Aug 2020]

**Perforin:**This gene encodes a protein with structural similarities to complement component C9 that is important in immunity. This protein forms membrane pores that allow the release of granzymes and subsequent cytolysis of target cells. Whether pore formation occurs in the plasma membrane of target cells or in an endosomal membrane inside target cells is subject to debate. Mutations in this gene are associated with a variety of human disease including diabetes, multiple sclerosis, lymphomas, autoimmune lymphoproliferative syndrome (ALPS), aplastic anemia, and familial hemophagocytic lymphohistiocytosis type 2 (FHL2), a rare and lethal autosomal recessive disorder of early childhood. [provided by RefSeq, Aug 2017]

**Granzyme B:**This gene encodes a member of the granzyme subfamily of proteins, part of the peptidase S1 family of serine proteases. The encoded preproprotein is secreted by natural killer (NK) cells and cytotoxic T lymphocytes (CTLs) and proteolytically processed to generate the active protease, which induces target cell apoptosis. This protein also processes cytokines and degrades extracellular matrix proteins, and these roles are implicated in chronic inflammation and wound healing. Expression of this gene may be elevated in human patients with cardiac fibrosis. [provided by RefSeq, Sep 2016]

## Function

**IFN gamma:**Participates in the regulation of hematopoietic stem cells during development and under homeostatic conditions by affecting their development, quiescence, and differentiation. [UniProt]

**TNF alpha:**Plays a role in angiogenesis by inducing VEGF production synergistically with IL1B and IL6. Promotes osteoclastogenesis and therefore mediates bone resorption (By similarity). [UniProt]

**Perforin:**Pore-forming protein that plays a key role in granzyme-mediated programmed cell death, and in defense against virus-infected or neoplastic cells . [UniProt]

**Granzyme B:**Abundant protease in the cytosolic granules of cytotoxic T-cells and NK-cells which activates caspase-independent pyroptosis when delivered into the target cell through the immunological synapse. [UniProt]

## Highlight

Related Product:

[IFN-gamma antibodies;](#)

[TNF-alpha antibodies;](#)

[Perforin antibodies;](#)

[Granzyme B antibodies;](#)

Related news:

[CTL/NK Activation Multiplex ELISA Kit is launched;](#)

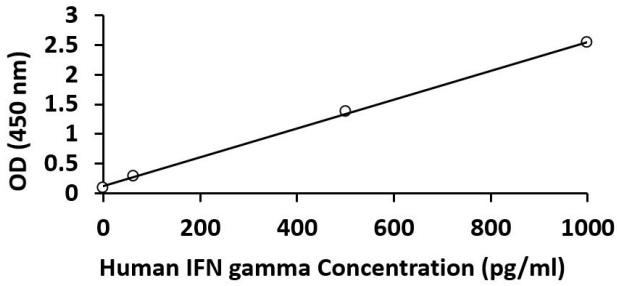
[Perforin and Granzyme B;](#)

[Validating cytotoxicity of γδT cells in NSCLC;](#)

[Quality control for engineered T cell therapy](#)

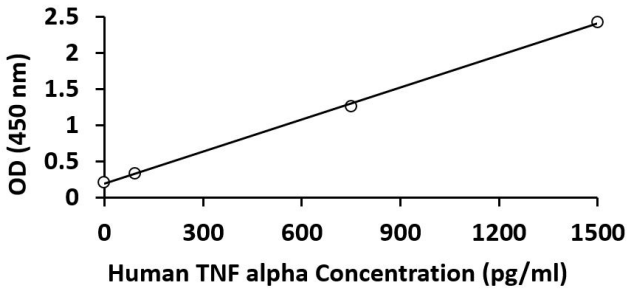
	1	2	3	4	5	6	7	8	9	10	11	12
A	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$
B	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$
C	Perforin	Perforin	Perforin	Perforin	Perforin	Perforin	Perforin	Perforin	Perforin	Perforin	Perforin	Perforin
D	Granzyme B	Granzyme B	Granzyme B	Granzyme B	Granzyme B	Granzyme B	Granzyme B	Granzyme B	Granzyme B	Granzyme B	Granzyme B	Granzyme B
E	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$
F	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$	TNF- $\alpha$
G	Perforin	Perforin	Perforin	Perforin	Perforin	Perforin	Perforin	Perforin	Perforin	Perforin	Perforin	Perforin
H	Granzyme B	Granzyme B	Granzyme B	Granzyme B	Granzyme B	Granzyme B	Granzyme B	Granzyme B	Granzyme B	Granzyme B	Granzyme B	Granzyme B

Antibodies Coating Pattern In Microtiter Plate of ARG83005 arigoPLEX® Human CTL/NK Activation Multiplex ELISA Kit (IFN gamma, TNF alpha, Perforin, Granzyme B)



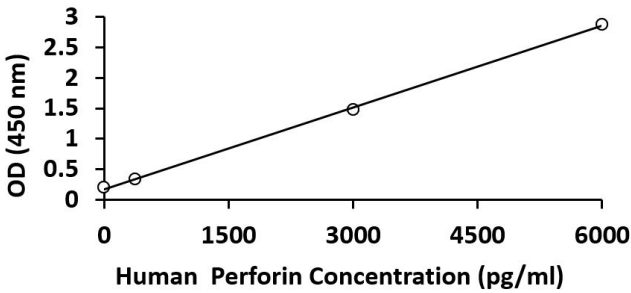
ARG83005 arigoPLEX® Human CTL/NK Activation Multiplex ELISA Kit (IFN gamma, TNF alpha, Perforin, Granzyme B) standard curve image

ARG83005 arigoPLEX® Human CTL/NK Activation Multiplex ELISA Kit (IFN gamma, TNF alpha, Perforin, Granzyme B) results of a typical standard for Human IFN gamma run with optical density reading at 450 nm.



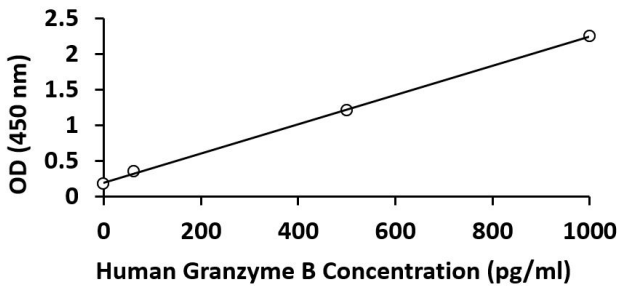
ARG83005 arigoPLEX® Human CTL/NK Activation Multiplex ELISA Kit (IFN gamma, TNF alpha, Perforin, Granzyme B) standard curve image

ARG83005 arigoPLEX® Human CTL/NK Activation Multiplex ELISA Kit (IFN gamma, TNF alpha, Perforin, Granzyme B) results of a typical standard for Human TNF alpha run with optical density reading at 450 nm.



ARG83005 arigoPLEX® Human CTL/NK activation Multiplex ELISA Kit (IFN gamma, TNF alpha, Perforin, Granzyme B) standard curve imageA

ARG83005 arigoPLEX® Human CTL/NK Activation Multiplex ELISA Kit (IFN gamma, TNF alpha, Perforin, Granzyme B) results of a typical standard for Human Perforin run with optical density reading at 450 nm.



ARG83005 arigoPLEX® Human CTL/NK Activation Multiplex ELISA Kit (IFN gamma, TNF alpha, Perforin, Granzyme B) standard curve image

ARG83005 arigoPLEX® Human CTL/NK Activation Multiplex ELISA Kit (IFN gamma, TNF alpha, Perforin, Granzyme B) results of a typical standard for Human Granzyme B run with optical density reading at 450 nm.