

ARG83516 arigoPLEX® Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha)

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

Summary

Product Description	ARG83516 arigoPLEX® Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) is an Enzyme Immunoassay kit for the semi-quantification of IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22 and TNF alpha in Human serum, plasma and cell culture supernatants. See all Multiplex ELISA kits
Tested Reactivity	Hu
Tested Application	ELISA
Target Name	Th1/Th2/Th17/Treg
Conjugation	HRP
Conjugation Note	Substrate: TMB and read at 450 nm.
Sensitivity	IFN gamma: 7.8 pg/ml IL2: 15.625 pg/ml IL4: 7.8 pg/ml IL10: 7.8 pg/ml IL13: 7.8 pg/ml IL17: 15.6 pg/ml IL22: 7.8 pg/ml TNF alpha: 15.6 pg/ml
Sample Type	Serum, plasma and cell culture supernatants.
Standard Range	IFN gamma: 15.625 - 500 pg/ml IL2: 31.25 - 1000 pg/ml IL4: 15.625 - 500 pg/ml IL10: 15.625 - 500 pg/ml IL13: 15.625 - 500 pg/ml IL17: 31.25 - 1000 pg/ml IL22: 15.625 - 500 pg/ml TNF alpha: 31.25 - 1000 pg/ml
Sample Volume	50 µl

Application Instructions

Assay Time 4.5 hours

Properties

Form	96 well
Storage instruction	Store components at 4°C or -20°C. Keep microplate wells sealed in a dry bag with desiccants. 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.

Gene Symbol	IFNG; IL2; IL4; IL10; IL13; IL17A; IL22; TNF
Gene Full Name	Interferon Gamma; Interleukin 2; Interleukin 4; Interleukin 10; Interleukin 13; Interleukin 17A; Interleukin 22; Tumor Necrosis Factor
Background	<p>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]</p> <p>IL2:This gene is a member of the interleukin 2 (IL2) cytokine subfamily which includes IL4, IL7, IL9, IL15, IL21, erythropoietin, and thrombopoietin. The protein encoded by this gene is a secreted cytokine produced by activated CD4+ and CD8+ T lymphocytes, that is important for the proliferation of T and B lymphocytes. The receptor of this cytokine (IL2R) is a heterotrimeric protein complex whose gamma chain is also shared by IL4 and IL7. The expression of this gene in mature thymocytes is monoallelic, which represents an unusual regulatory mode for controlling the precise expression of a single gene. The targeted disruption of a similar gene in mice leads to ulcerative colitis-like disease, which suggests an essential role of this gene in the immune response to antigenic stimuli. [provided by RefSeq, Sep 2020]</p> <p>IL4:The protein encoded by this gene is a pleiotropic cytokine produced by activated T cells. This cytokine is a ligand for interleukin 4 receptor. The interleukin 4 receptor also binds to IL13, which may contribute to many overlapping functions of this cytokine and IL13. STAT6, a signal transducer and activator of transcription, has been shown to play a central role in mediating the immune regulatory signal of this cytokine. This gene, IL3, IL5, IL13, and CSF2 form a cytokine gene cluster on chromosome 5q, with this gene particularly close to IL13. This gene, IL13 and IL5 are found to be regulated coordinately by several long-range regulatory elements in an over 120 kilobase range on the chromosome. IL4 is considered an important cytokine for tissue repair, counterbalancing the effects of proinflammatory type 1 cytokines, however, it also promotes allergic airway inflammation. Moreover, IL-4, a type 2 cytokine, mediates and regulates a variety of human host responses such as allergic, anti-parasitic, wound healing, and acute inflammation. This cytokine has been reported to promote resolution of neutrophil-mediated acute lung injury. In an allergic response, IL-4 has an essential role in the production of allergen-specific immunoglobulin (Ig) E. This pro-inflammatory cytokine has been observed to be increased in COVID-19 (Coronavirus disease 2019) patients, but is not necessarily associated with severe COVID-19 pathology. Two alternatively spliced transcript variants of this gene encoding distinct isoforms have been reported. [provided by RefSeq, Aug 2020]</p> <p>IL10:The protein encoded by this gene is a cytokine produced primarily by monocytes and to a lesser extent by lymphocytes. This cytokine has pleiotropic effects in immunoregulation and inflammation. It down-regulates the expression of Th1 cytokines, MHC class II Ags, and costimulatory molecules on macrophages. It also enhances B cell survival, proliferation, and antibody production. This cytokine can block NF-kappa B activity, and is involved in the regulation of the JAK-STAT signaling pathway. Knockout studies in mice suggested the function of this cytokine as an essential immunoregulator in the intestinal tract. Mutations in this gene are associated with an increased susceptibility to HIV-1 infection and rheumatoid arthritis. [provided by RefSeq, May 2020]</p> <p>IL13:This gene encodes an immunoregulatory cytokine produced primarily by activated Th2 cells. This cytokine is involved in several stages of B-cell maturation and differentiation. It up-regulates CD23 and MHC class II expression, and promotes IgE isotype switching of B cells. This cytokine down-regulates macrophage activity, thereby inhibits the production of pro-inflammatory cytokines and chemokines. This cytokine is found to be critical to the pathogenesis of allergen-induced asthma but operates through mechanisms independent of IgE and eosinophils. This gene, IL3, IL5, IL4, and CSF2 form a cytokine gene cluster on chromosome 5q, with this gene particularly close to IL4. [provided by RefSeq, Jul 2008]</p> <p>IL17:This gene is a member of the IL-17 receptor family which includes five members (IL-17RA-E) and the encoded protein is a proinflammatory cytokine produced by activated T cells. IL-17A-mediated downstream pathways induce the production of inflammatory molecules, chemokines, antimicrobial peptides, and remodeling proteins. The encoded protein elicits crucial impacts on host defense, cell trafficking, immune modulation, and tissue repair, with a key role in the induction of innate immune defenses. This cytokine stimulates non-hematopoietic cells and promotes chemokine production thereby attracting myeloid cells to inflammatory sites. This cytokine also regulates the activities of NF-kappaB and mitogen-activated protein kinases and can stimulate the expression of IL6 and</p>

cyclooxygenase-2 (PTGS2/COX-2), as well as enhance the production of nitric oxide (NO). IL-17A plays a pivotal role in various infectious diseases, inflammatory and autoimmune disorders, and cancer. High levels of this cytokine are associated with several chronic inflammatory diseases including rheumatoid arthritis, psoriasis and multiple sclerosis. The lung damage induced by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is to a large extent, a result of the inflammatory response promoted by cytokines such as IL17A. [provided by RefSeq, Sep 2020]

IL22:This gene is a member of the IL10 family of cytokines that mediate cellular inflammatory responses. The encoded protein functions in antimicrobial defense at mucosal surfaces and in tissue repair. This protein also has pro-inflammatory properties and plays a role in in the pathogenesis of several intestinal diseases. The encoded protein is a crucial cytokine that regulates host immunity in infectious diseases, including COVID-19 (disease caused by SARS-CoV-2). [provided by RefSeq, Dec 2021]

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]

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]

IL2:Cytokine produced by activated CD4-positive helper T-cells and to a lesser extend activated CD8-positive T-cells and natural killer (NK) cells that plays pivotal roles in the immune response and tolerance. [UniProt]

IL4:Cytokine secreted primarily by mast cells, T-cells, eosinophils, and basophils that plays a role in regulating antibody production, hematopoiesis and inflammation, and the development of effector T-cell response. [UniProt]

IL10:Major immune regulatory cytokine that acts on many cells of the immune system where it has profound anti-inflammatory functions, limiting excessive tissue disruption caused by inflammation. Mechanistically, IL10 binds to its heterotetrameric receptor comprising IL10RA and IL10RB leading to JAK1 and STAT2-mediated phosphorylation of STAT3. [UniProt]

IL13:Cytokine that plays important roles in allergic inflammation and immune response to parasite infection. [UniProt]

IL17:Effector cytokine of innate and adaptive immune system involved in antimicrobial host defense and maintenance of tissue integrity. [UniProt]

IL22:Cytokine that plays a critical role in modulating tissue responses during inflammation. [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]

Highlight

Related Product:

[IFN gamma antibodies;](#)

[IL2 antibodies;](#)

[IL4 antibodies;](#)

[IL10 antibodies;](#)

[IL13 antibodies;](#)

[IL17 antibodies;](#)

[IL22 antibodies;](#)

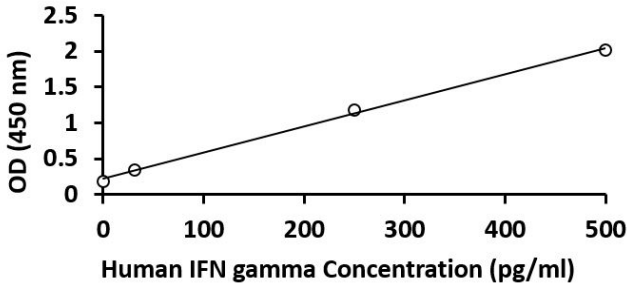
[TNF alpha antibodies;](#)

New ELISA data calculation tool:

[Simplify the ELISA analysis by GainData](#)

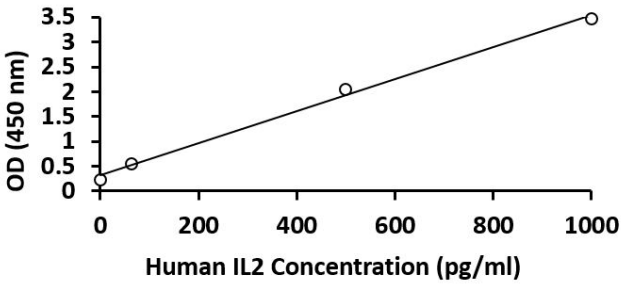
	1	2	3	4	5	6	7	8	9	10	11	12
A	IFN- γ	IFN- γ	IFN- γ	IFN- γ	IFN- γ	IFN- γ	IFN- γ	IFN- γ	IFN- γ	IFN- γ	IFN- γ	IFN- γ
B	IL-2	IL-2	IL-2	IL-2	IL-2	IL-2	IL-2	IL-2	IL-2	IL-2	IL-2	IL-2
C	IL-4	IL-4	IL-4	IL-4	IL-4	IL-4	IL-4	IL-4	IL-4	IL-4	IL-4	IL-4
D	IL-10	IL-10	IL-10	IL-10	IL-10	IL-10	IL-10	IL-10	IL-10	IL-10	IL-10	IL-10
E	IL-13	IL-13	IL-13	IL-13	IL-13	IL-13	IL-13	IL-13	IL-13	IL-13	IL-13	IL-13
F	IL-17	IL-17	IL-17	IL-17	IL-17	IL-17	IL-17	IL-17	IL-17	IL-17	IL-17	IL-17
G	IL-22	IL-22	IL-22	IL-22	IL-22	IL-22	IL-22	IL-22	IL-22	IL-22	IL-22	IL-22
H	TNF- α	TNF- α	TNF- α	TNF- α	TNF- α	TNF- α	TNF- α	TNF- α	TNF- α	TNF- α	TNF- α	TNF- α

Antibodies Coating Pattern In Microtiter Plate of ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha)



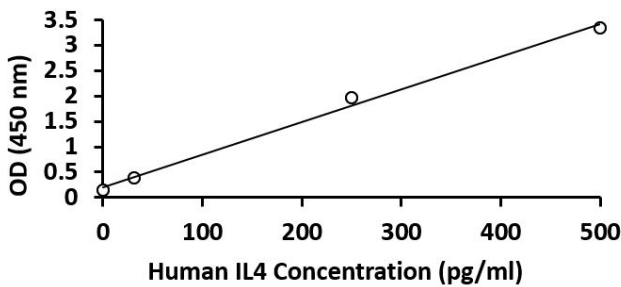
ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) standard curve image

ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) results of a typical standard for Human IFN gamma run with optical density reading at 450 nm.



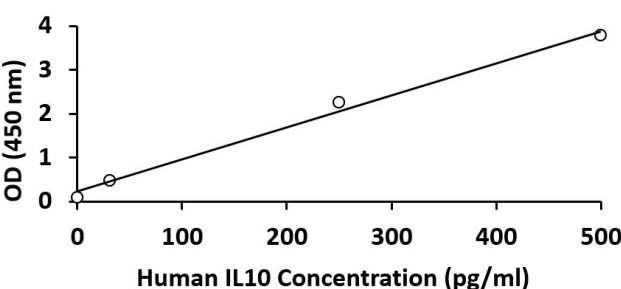
ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) standard curve image

ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) results of a typical standard for Human IL2 run with optical density reading at 450 nm.



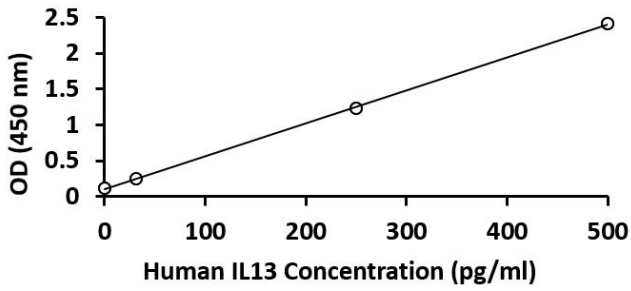
ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) standard curve image

ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) results of a typical standard for Human IL4 run with optical density reading at 450 nm.



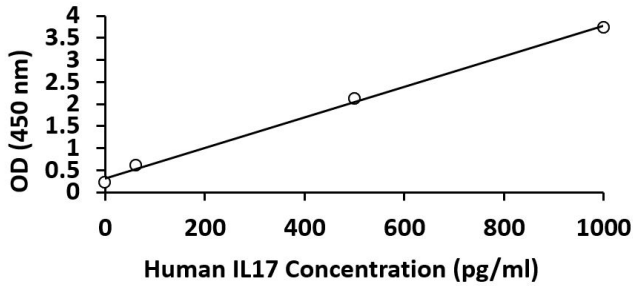
ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) standard curve image

ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) results of a typical standard for Human IL10 run with optical density reading at 450 nm.



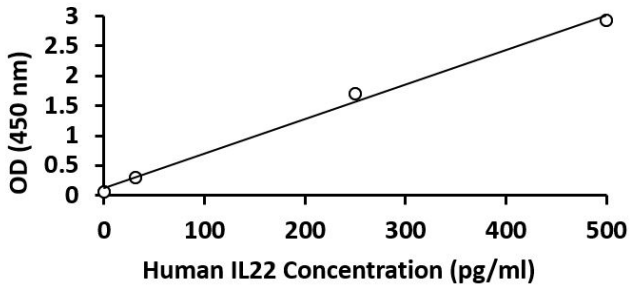
ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) standard curve image

ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) results of a typical standard for Human IL13 run with optical density reading at 450 nm.



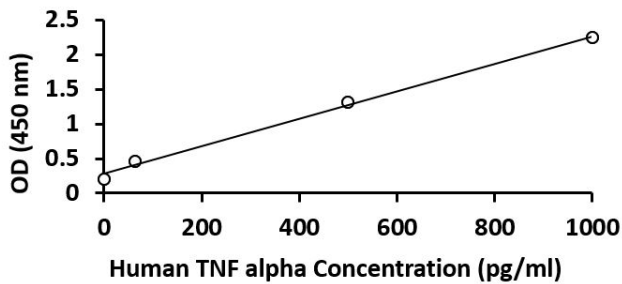
ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) standard curve image

ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) results of a typical standard for Human IL17 run with optical density reading at 450 nm.



ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) standard curve image

ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) results of a typical standard for Human IL22 run with optical density reading at 450 nm.



ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) standard curve image

ARG83516 Human Th1/Th2/Th17/Treg Multiplex ELISA Kit (IFN gamma, IL2, IL4, IL10, IL13, IL17, IL22, TNF alpha) results of a typical standard for Human TNF alpha run with optical density reading at 450 nm.