

ARG82914 arigoPLEX® Mouse Th1/Th2/Th17/Treg Cytokines Multiplex ELISA Kit (IFN gamma, IL4, IL10, IL17)

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

Summary

Product Description	ARG82914 arigoPLEX® Mouse Th1/Th2/Th17/Treg Cytokines Multiplex ELISA Kit (IFN gamma, IL4, IL10, IL17) is an Enzyme Immunoassay kit for the quantification of IFN gamma, IL4, IL10, IL17 in serum, plasma and cell culture supernatant. See all Multiplex ELISA kits
Tested Reactivity	Ms
Tested Application	ELISA
Target Name	Th1/Th2/Th17/Treg
Conjugation	HRP
Conjugation Note	Substrate: TMB and read at 450 nm
Sensitivity	IFN gamma: 15.6 pg/ml IL4: 7.8 pg/ml IL10: 7.8 pg/ml IL17: 7.8 pg/ml
Sample Type	Serum, plasma and cell culture supernatants.
Standard Range	IFN gamma: 31.25 - 1000 pg/ml IL4: 15.6 - 500 pg/ml IL10: 15.6 - 500 pg/ml IL17: 15.6 - 500 pg/ml
Sample Volume	50 µl

Application Instructions

Assay Time	4 hour
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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.

Bioinformation

Gene Symbol	IFNG; IL4; IL17A; IL10
Gene Full Name	Interferon Gamma; Interleukin 4; Interleukin 17A; Interleukin 10

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]

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]

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 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]

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]

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]

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]

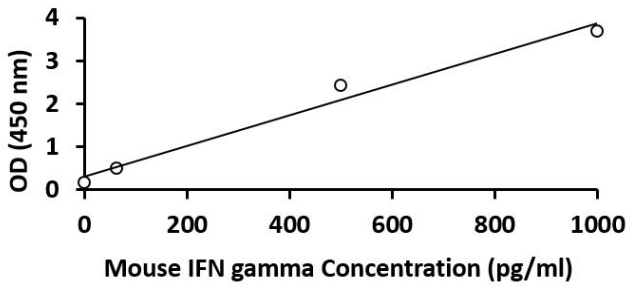
IL17: Effector cytokine of innate and adaptive immune system involved in antimicrobial host defense and maintenance of tissue integrity. [UniProt]

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]

Images

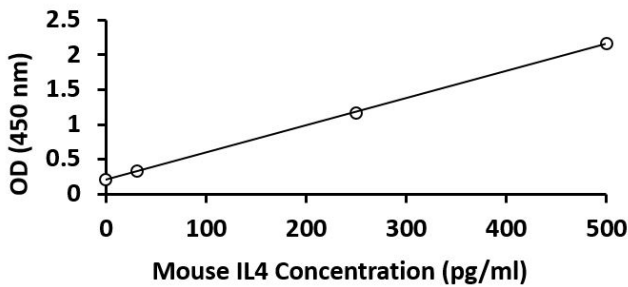
	1	2	3	4	5	6	7	8	9	10	11	12
A	IFN- γ	IFN- γ	IFN- γ	IFN- γ	IFN- γ	IFN- γ	IFN- γ	IFN- γ	IFN- γ	IFN- γ	IFN- γ	IFN- γ
B	IL-4	IL-10	IL-4	IL-4	IL-4	IL-4	IL-4	IL-4	IL-4	IL-4	IL-4	IL-4
C	IL-10	IL-10	IL-10	IL-10	IL-10	IL-10	IL-10	IL-10	IL-10	IL-10	IL-10	IL-10
D	IL-17	IL-17	IL-17	IL-17	IL-17	IL-17	IL-17	IL-17	IL-17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

Antibodies Coating Pattern In Microtiter Plate of ARG82914 arigoPLEX[®] Mouse Th1/Th2/Th17/Treg Cytokines multiplex ELISA Kit (IFN gamma, IL4, IL10, IL17)



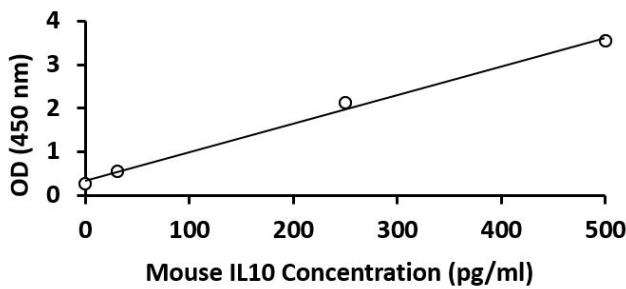
ARG82914 arigoPLEX[®] Mouse Th1/Th2/Th17/Treg Cytokines multiplex ELISA Kit (IFN gamma, IL4, IL10, IL17) standard curve image

ARG82914 arigoPLEX[®] Mouse Th1/Th2/Th17/Treg Cytokines multiplex ELISA Kit (IFN gamma, IL4, IL10, IL17) results of a typical standard for Mouse IFN gamma run with optical density reading at 450 nm.



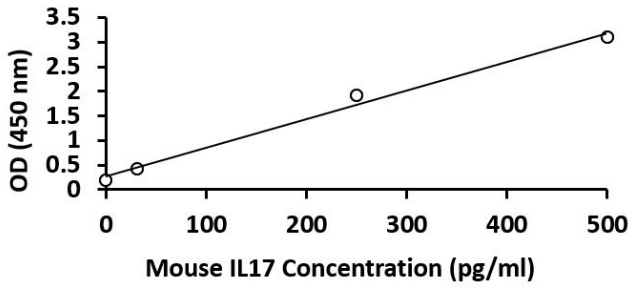
ARG82914 arigoPLEX[®] Mouse Th1/Th2/Th17/Treg Cytokines multiplex ELISA Kit (IFN gamma, IL4, IL10, IL17) standard curve image

ARG82914 arigoPLEX[®] Mouse Th1/Th2/Th17/Treg Cytokines multiplex ELISA Kit (IFN gamma, IL4, IL10, IL17) results of a typical standard for Mouse IL4 run with optical density reading at 450 nm.



ARG82914 arigoPLEX[®] Mouse Th1/Th2/Th17/Treg Cytokines multiplex ELISA Kit (IFN gamma, IL4, IL10, IL17) standard curve image

ARG82914 arigoPLEX[®] Mouse Th1/Th2/Th17/Treg Cytokines multiplex ELISA Kit (IFN gamma, IL4, IL10, IL17) results of a typical standard for Mouse IL10 run with optical density reading at 450 nm.



ARG82914 arigoPLEX® Mouse Th1/Th2/Th17/Treg Cytokines multiplex ELISA Kit (IFN gamma, IL4, IL10, IL17) standard curve image

ARG82914 arigoPLEX® Mouse Th1/Th2/Th17/Treg Cytokines multiplex ELISA Kit (IFN gamma, IL4, IL10, IL17) results of a typical standard for Mouse IL17 run with optical density reading at 450 nm.