

## ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1)

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

### Summary

Product Description	ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) is an Enzyme Immunoassay kit for the quantification of IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1 and TNF alpha in Mouse serum, plasma and cell culture supernatants.  <a href="#">See all Multiplex ELISA kits</a>
Tested Reactivity	Ms
Tested Application	ELISA
Target Name	Inflammatory Cytokine
Conjugation	HRP
Conjugation Note	Substrate: TMB and read at 450 nm.
Sensitivity	IFN gamma: 15.6 pg/ml IL1 beta: 15.6 pg/ml IL6: 31.25 pg/ml IL17: 7.81 pg/ml GM-CSF: 7.81 pg/ml TNF alpha: 15.6 pg/ml CXCL1: 15.6 pg/ml MCP1: 3.9 pg/ml
Sample Type	Serum, plasma and cell culture supernatants.
Standard Range	IFN gamma: 31.25 - 1000 pg/ml IL1 beta: 31.25 - 1000 pg/ml IL6: 62.5 - 2000 pg/ml IL17: 15.625 - 500 pg/ml GM - CSF: 15.625 - 500 pg/ml TNF alpha: 31.25 - 1000 pg/ml CXCL1: 31.25 - 1000 pg/ml MCP1: 7.8 - 250 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.

## Bioinformation

Gene Symbol	IFNG; IL1B; IL6; IL17A; CSF2; TNF; CXCL1; CCL2
Gene Full Name	Interferon Gamma; Interleukin 1 Beta; Interleukin 6; Interleukin 17A; Colony Stimulating Factor 2; Tumor Necrosis Factor; C-X-C Motif Chemokine Ligand 1; C-C Motif Chemokine Ligand 2
Background	<p><b>IFN gamma:</b>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><b>IL1 beta:</b>The protein encoded by this gene is a member of the interleukin 1 cytokine family. This cytokine is produced by activated macrophages as a proprotein, which is proteolytically processed to its active form by caspase 1 (CASP1/ICE). This cytokine is an important mediator of the inflammatory response, and is involved in a variety of cellular activities, including cell proliferation, differentiation, and apoptosis. The induction of cyclooxygenase-2 (PTGS2/COX2) by this cytokine in the central nervous system (CNS) is found to contribute to inflammatory pain hypersensitivity. Similarly, IL-1B has been implicated in human osteoarthritis pathogenesis. Patients with severe Coronavirus Disease 2019 (COVID-19) present elevated levels of pro-inflammatory cytokines such as IL-1B in bronchial alveolar lavage fluid samples. 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 IL-1B. This gene and eight other interleukin 1 family genes form a cytokine gene cluster on chromosome 2. [provided by RefSeq, Jul 2020]</p> <p><b>IL6:</b>This gene encodes a cytokine that functions in inflammation and the maturation of B cells. In addition, the encoded protein has been shown to be an endogenous pyrogen capable of inducing fever in people with autoimmune diseases or infections. The protein is primarily produced at sites of acute and chronic inflammation, where it is secreted into the serum and induces a transcriptional inflammatory response through interleukin 6 receptor, alpha. The functioning of this gene is implicated in a wide variety of inflammation-associated disease states, including susceptibility to diabetes mellitus and systemic juvenile rheumatoid arthritis. Elevated levels of the encoded protein have been found in virus infections, including COVID-19 (disease caused by SARS-CoV-2). [provided by RefSeq, Aug 2020]</p> <p><b>IL17A:</b>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]</p> <p><b>GM-CSF:</b>The protein encoded by this gene is a cytokine that controls the production, differentiation, and function of granulocytes and macrophages. The active form of the protein is found extracellularly as a homodimer. This gene has been localized to a cluster of related genes at chromosome region 5q31, which is known to be associated with interstitial deletions in the 5q- syndrome and acute myelogenous leukemia. Other genes in the cluster include those encoding interleukins 4, 5, and 13. This gene plays a role in promoting tissue inflammation. Elevated levels of cytokines, including the one produced by this gene, have been detected in SARS-CoV-2 infected patients that develop acute respiratory distress syndrome. Mice deficient in this gene or its receptor develop pulmonary alveolar proteinosis. [provided by RefSeq, Aug 2020]</p> <p><b>TNF alpha:</b>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</p>

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]

CXCL1:This antimicrobial gene encodes a member of the CXC subfamily of chemokines. The encoded protein is a secreted growth factor that signals through the G-protein coupled receptor, CXC receptor 2. This protein plays a role in inflammation and as a chemoattractant for neutrophils. Aberrant expression of this protein is associated with the growth and progression of certain tumors. A naturally occurring processed form of this protein has increased chemotactic activity. Alternate splicing results in coding and non-coding variants of this gene. A pseudogene of this gene is found on chromosome 4. [provided by RefSeq, Sep 2014]

MCP1:This gene is one of several cytokine genes clustered on the q-arm of chromosome 17. Chemokines are a superfamily of secreted proteins involved in immunoregulatory and inflammatory processes. The superfamily is divided into four subfamilies based on the arrangement of N-terminal cysteine residues of the mature peptide. This chemokine is a member of the CC subfamily which is characterized by two adjacent cysteine residues. This cytokine displays chemotactic activity for monocytes and basophils but not for neutrophils or eosinophils. It has been implicated in the pathogenesis of diseases characterized by monocytic infiltrates, like psoriasis, rheumatoid arthritis and atherosclerosis. It binds to chemokine receptors CCR2 and CCR4. Elevated expression of the encoded protein is associated with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection. [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]

IL1 beta:Acts as a sensor of S.pyogenes infection in skin: cleaved and activated by pyogenes SpeB protease, leading to an inflammatory response that prevents bacterial growth during invasive skin infection. [UniProt]

IL6:Through activation of IL6ST-YAP-NOTCH pathway, induces inflammation-induced epithelial regeneration (By similarity). [UniProt]

IL17A:Effector cytokine of innate and adaptive immune system involved in antimicrobial host defense and maintenance of tissue integrity. [UniProt]

GM-CSF:Cytokine that stimulates the growth and differentiation of hematopoietic precursor cells from various lineages, including granulocytes, macrophages, eosinophils and erythrocytes. [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]

CXCL1:Has chemotactic activity for neutrophils. May play a role in inflammation and exerts its effects on endothelial cells in an autocrine fashion. In vitro, the processed forms GRO-alpha(4-73), GRO-alpha(5-73) and GRO-alpha(6-73) show a 30-fold higher chemotactic activity.. [UniProt]

MCP1:May be involved in the recruitment of monocytes into the arterial wall during the disease process of atherosclerosis. [UniProt]

## Highlight

Related Product:

[IFN gamma antibodies;](#)

[IL1 beta antibodies;](#)

[IL6 antibodies;](#)

[IL17 antibodies;](#)

[GM CSF antibodies;](#)

[TNF alpha antibodies;](#)

[CXCL1 antibodies;](#)

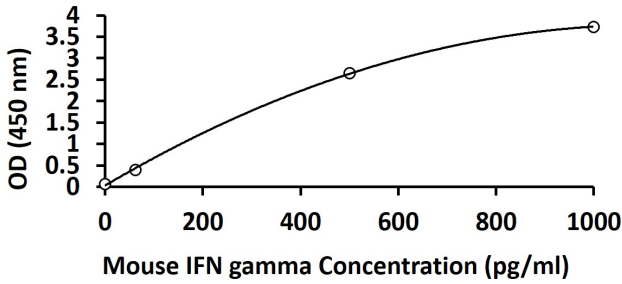
[MCP1 antibodies;](#)

New ELISA data calculation tool:

[Simplify the ELISA analysis by GainData](#)

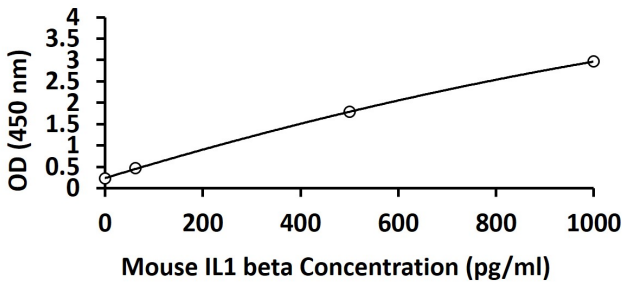
	1	2	3	4	5	6	7	8	9	10	11	12
A	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$	IFN- $\gamma$
B	IL-1 $\beta$	IL-1 $\beta$	IL-1 $\beta$	IL-1 $\beta$	IL-1 $\beta$	IL-1 $\beta$	IL-1 $\beta$	IL-1 $\beta$	IL-1 $\beta$	IL-1 $\beta$	IL-1 $\beta$	IL-1 $\beta$
C	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6
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	GM-CSF	GM-CSF	GM-CSF	GM-CSF	GM-CSF	GM-CSF	GM-CSF	GM-CSF	GM-CSF	GM-CSF	GM-CSF	GM-CSF
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	CXCL1	CXCL1	CXCL1	CXCL1	CXCL1	CXCL1	CXCL1	CXCL1	CXCL1	CXCL1	CXCL1	CXCL1
H	MCP1	MCP1	MCP1	MCP1	MCP1	MCP1	MCP1	MCP1	MCP1	MCP1	MCP1	MCP1

Antibodies Coating Pattern In Microtiter Plate of arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1)



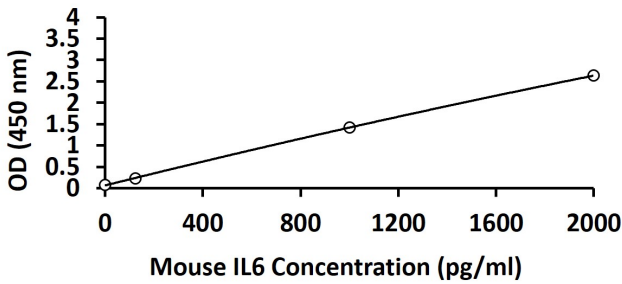
ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) standard curve image

ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) results of a typical standard for Mouse IFN gamma run with optical density reading at 450 nm.



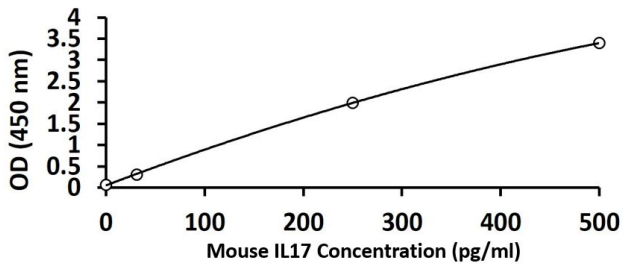
ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) standard curve image

ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) results of a typical standard for Mouse IL1 beta run with optical density reading at 450 nm.



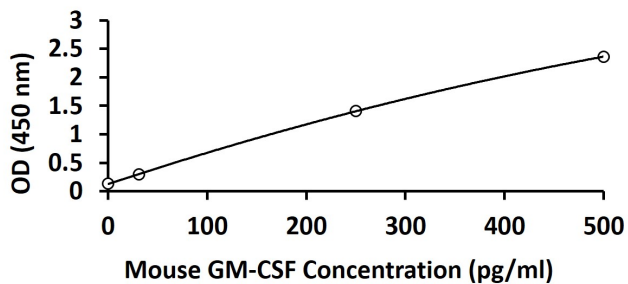
ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) standard curve image

ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) results of a typical standard for Mouse IL6 run with optical density reading at 450 nm.



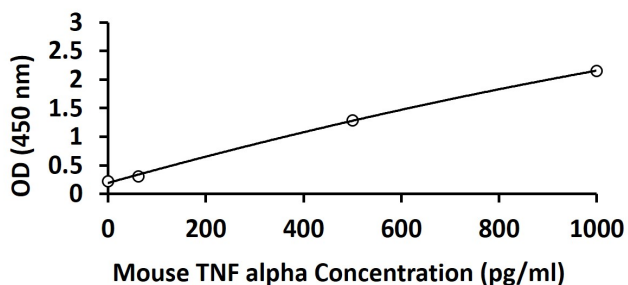
ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) standard curve image

ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) results of a typical standard for Mouse IL17 run with optical density reading at 450 nm.



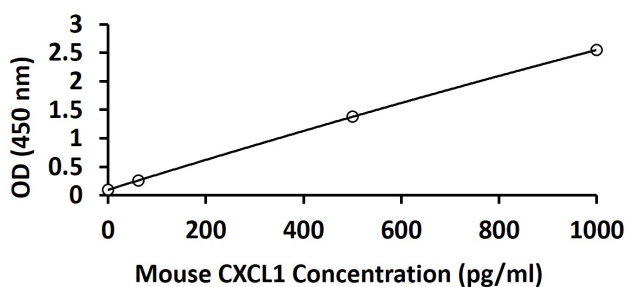
ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) standard curve image

ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) results of a typical standard for Mouse GM-CSF run with optical density reading at 450 nm.



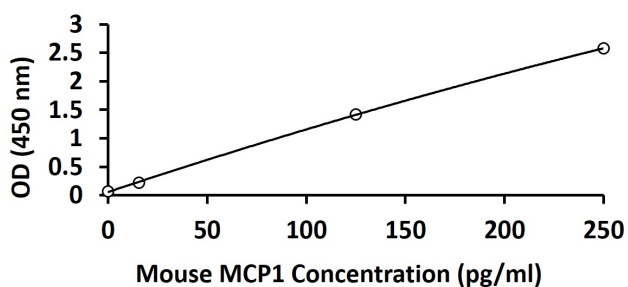
ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) standard curve image

ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) results of a typical standard for Mouse TNF alpha run with optical density reading at 450 nm.



ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) standard curve image

ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) results of a typical standard for Mouse CXCL1 run with optical density reading at 450 nm.



ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) standard curve image

ARG83519 arigoPLEX® Mouse Inflammatory Cytokine Multiplex ELISA Kit (IFN gamma, IL1 beta, IL6, IL17, GM-CSF, TNF alpha, CXCL1, MCP1) results of a typical standard for Mouse MCP1 run with optical density reading at 450 nm.