ARG83510
arigoPLEX® Human Angiogenic Marker Multiplex ELISA kit (VEGF, FGF basic, HGF, IL6)

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

Summary

Product Description	ARG83510 arigoPLEX® Human Angiogenic Marker Multiplex ELISA kit (VEGF, FGF basic, HGF, IL6) is an Enzyme Immunoassay kit for the quantification of Human Angiogenic Marker (VEGF, FGF basic, HGF, IL6) in Human serum, plasma and cell culture supernatants. See all Multiplex ELISA kits
Tested Reactivity	Hu
Tested Application	ELISA
Target Name	Angiogenic
Conjugation	HRP
Conjugation Note	Substrate: TMB and read at 450 nm.
Sensitivity	VEGF: 15.6 pg/ml FGF basic: 7.8 pg/ml HGF: 62.5 pg/ml IL-6: 7.8 pg/ml
Sample Type	Serum, plasma and cell culture supernatants.
Standard Range	VEGF: 31.25 - 2000 pg/ml FGF basic: 15.6 - 1000 pg/ml HGF: 125 - 8000 pg/ml IL - 6: 15.6 - 1000 pg/ml
Sample Volume	50 µl
Alternate Names	VEGF: VEGFA, Vascular Endothelial Growth Factor A, VP, VEGF-A, VEGF, Vascular Permeability Factor, Vascular Endothelial Growth Factor A121, Vascular Endothelial Growth Factor A165, Vascular Endothelial Growth Factor, MVCD1 FGF basic: FGF-2; Fibroblast growth factor 2; bFGF; FGFB; Heparin-binding growth factor 2; BFGF; HBGF-2; Basic fibroblast growth factor HGF: HPTA; Scatter factor; F-TCF; Hepatocyte growth factor; DFNB39; Hepatopoietin-A; HGFB; SF IL6: B-cell stimulatory factor 2; CDF; HSF; BSF-2; Interferon beta-2; IL-6; IFNB2; CTL differentiation factor; Interleukin-6; HGF; Hybridoma growth factor; BSF2; IFN-beta-2

Application Instructions

Assay Time	4.5 hours

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	VEGFA; FGF2; HGF; IL6
Gene Full Name	Vascular endothelial growth factor A Fibroblast growth factor 2 hepatocyte growth factor (hepapoietin A; scatter factor) Interleukin-6
Background	VEGF: This gene is a member of the PDGF/VEGF growth factor family. It encodes a heparin-binding protein, which exists as a disulfide-linked homodimer. This growth factor induces proliferation and migration of vascular endothelial cells, and is essential for both physiological and pathological angiogenesis. Disruption of this gene in mice resulted in abnormal embryonic blood vessel formation. This gene is upregulated in many known tumors and its expression is correlated with tumor stage and progression. Elevated levels of this protein are found in patients with POEMS syndrome, also known as Crow-Fukase syndrome. Allelic variants of this gene have been associated with microvascular complications of diabetes 1 (MVCD1) and atherosclerosis. Alternatively spliced transcript variants encoding different isoforms have been described. There is also evidence for alternative translation initiation from upstream non-AUG (CUG) codons resulting in additional isoforms. A recent study showed that a C-terminally extended isoform is produced by use of an alternative in-frame translation termination codon via a stop codon readthrough mechanism, and that this isoform is antiangiogenic. Expression of some isoforms derived from the AUG start codon is regulated by a small upstream open reading frame, which is located within an internal ribosome entry site. The levels of VEGF are increased during infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), thus promoting inflammation by facilitating recruitment of inflammatory cells, and by increasing the level of angiopoietin II (Ang II), one of two products of the SARS-CoV-2 binding target, angiotensin-converting enzyme 2 (ACE2). In turn, Ang II facilitates the elevation of VEGF, thus forming a vicious cycle in the release of inflammatory cytokines. [provided by RefSeq, Jun 2020] FGF basic: The protein encoded by this gene is a member of the fibroblast growth factor (FGF) family. FGF family members bind heparin and possess broad mitogenic and angiogenic activities. This protein has been implicated in diverse biological processes, such as limb and nervous system development, wound healing, and tumor growth. The mRNA for this gene contains multiple polyadenylation sites, and is alternatively translated from non-AUG (CUG) and AUG initiation codons, resulting in five different isoforms with distinct properties. The CUG-initiated isoforms are localized in the nucleus and are responsible for the intracrine effect, whereas, the AUG-initiated form is mostly cytosolic and is responsible for the paracrine and autocrine effects of this FGF. [provided by RefSeq, Jul 2008] HGF: Hepatocyte growth factor regulates cell growth, cell motility, and morphogenesis by activating a tyrosine kinase signaling cascade after binding to the proto-oncogenic c-Met receptor. Hepatocyte growth factor is secreted by mesenchymal cells and acts as a multi-functional cytokine on cells of mainly epithelial origin. Its ability to stimulate mitogenesis, cell motility, and matrix invasion gives it a central role in angiogenesis, tumorogenesis, and tissue regeneration. It is secreted as a single inactive polypeptide and is cleaved by serine proteases into a 69-kDa alpha-chain and 34-kDa beta-chain. A disulfide bond between the alpha and beta chains produces the active, heterodimeric molecule. The protein belongs to the plasminogen subfamily of S1 peptidases but has no detectable protease activity. Alternative splicing of this gene produces multiple transcript variants encoding different isoforms. [provided by RefSeq, Jul 2008] IL6: 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 suspectibility to diabetes mellitus and systemic juvenile rheumatoid arthritis. [provided by RefSeq, Jun 2011]
Function	VEGF: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. Induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis and induces permeabilization of blood vessels. Binds to the FLT1/VEGFR1 and KDR/VEGFR2 receptors, heparan sulfate and heparin. NRP1/Neuropilin-1 binds isoforms VEGF-165 and VEGF-145. Isoform VEGF165B binds to KDR but does not activate downstream signaling pathways, does not activate angiogenesis and inhibits tumor growth. Binding to NRP1 receptor initiates a signaling pathway needed for motor neuron axon guidance and cell

body migration, including for the caudal migration of facial motor neurons from rhombomere 4 to rhombomere 6 during embryonic development (By similarity). [UniProt]

FGF basic: Acts as a ligand for FGFR1, FGFR2, FGFR3 and FGFR4 (PubMed:8663044). Also acts as an integrin ligand which is required for FGF2 signaling (PubMed:28302677). Binds to integrin ITGAV:ITGB3 (PubMed:28302677). Plays an important role in the regulation of cell survival, cell division, cell differentiation and cell migration (PubMed:8663044, PubMed:28302677). Functions as a potent mitogen in vitro (PubMed:3732516, PubMed:3964259). Can induce angiogenesis (PubMed:23469107, PubMed:28302677). [UniProt]

HGF: Potent mitogen for mature parenchymal hepatocyte cells, seems to be a hepatotrophic factor, and acts as a growth factor for a broad spectrum of tissues and cell types. Activating ligand for the receptor tyrosine kinase MET by binding to it and promoting its dimerization. [UniProt]

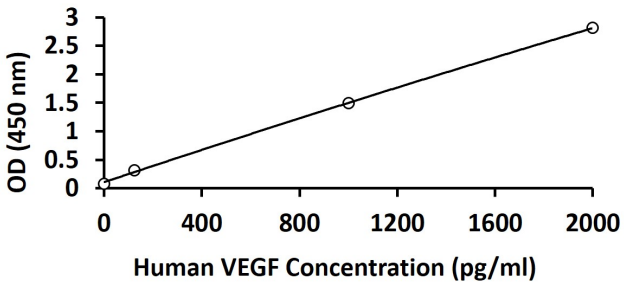
IL6: Cytokine with a wide variety of biological functions. It is a potent inducer of the acute phase response. Plays an essential role in the final differentiation of B-cells into Ig-secreting cells Involved in lymphocyte and monocyte differentiation. Acts on B-cells, T-cells, hepatocytes, hematopoietic progenitor cells and cells of the CNS. Required for the generation of T(H)17 cells. Also acts as a myokine. It is discharged into the bloodstream after muscle contraction and acts to increase the breakdown of fats and to improve insulin resistance. It induces myeloma and plasmacytoma growth and induces nerve cells differentiation. [UniProt]

Highlight

Images

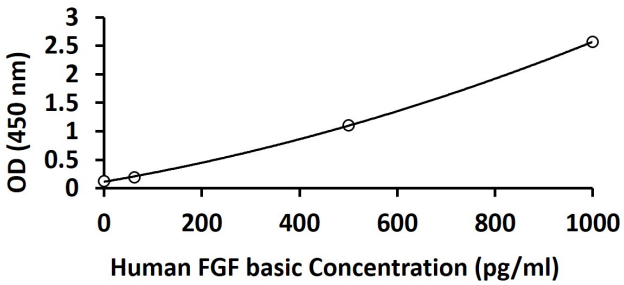
	1	2	3	4	5	6	7	8	9	10	11	12
A	VEGF	VEGF	VEGF	VEGF	VEGF	VEGF	VEGF	VEGF	VEGF	VEGF	VEGF	VEGF
B	FGF basic	FGF basic	FGF basic	FGF basic	FGF basic	FGF basic	FGF basic	FGF basic	FGF basic	FGF basic	FGF basic	FGF basic
C	HGF	HGF	HGF	HGF	HGF	HGF	HGF	HGF	HGF	HGF	HGF	HGF
D	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6
E	VEGF	VEGF	VEGF	VEGF	VEGF	VEGF	VEGF	VEGF	VEGF	VEGF	VEGF	VEGF
F	FGF basic	FGF basic	FGF basic	FGF basic	FGF basic	FGF basic	FGF basic	FGF basic	FGF basic	FGF basic	FGF basic	FGF basic
G	HGF	HGF	HGF	HGF	HGF	HGF	HGF	HGF	HGF	HGF	HGF	HGF
H	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6	IL-6

Antibodies Coating Pattern In Microtiter Plate of ARG83510 arigoPLEX®Human Angiogenic Marker Multiplex ELISA kit (VEGF, FGF basic, HGF, IL6)



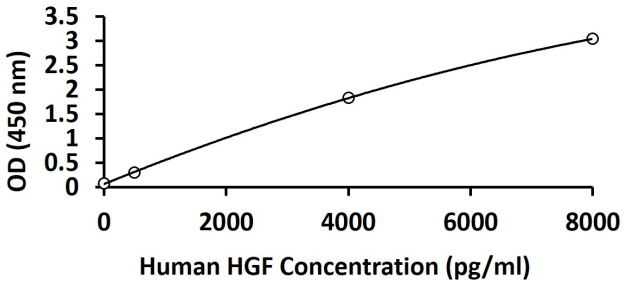
ARG83510 arigoPLEX®Human Angiogenic Marker Multiplex ELISA kit standard curve image

ARG83510 arigoPLEX®Human Angiogenic Marker Multiplex ELISA kit results of a typical standard for Human VEGF run with optical density reading at 450 nm.



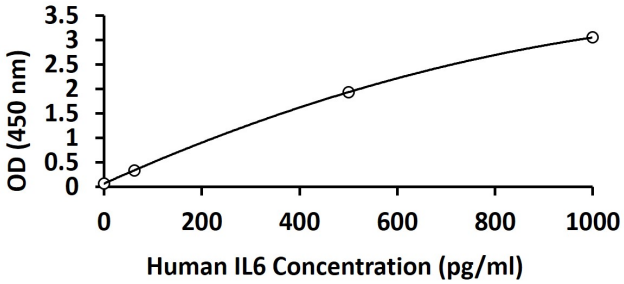
ARG83510 arigoPLEX®Human Angiogenic Marker Multiplex ELISA kit standard curve image

ARG83510 arigoPLEX®Human Angiogenic Marker Multiplex ELISA kit results of a typical standard for Human FGF basic run with optical density reading at 450 nm.



ARG83510 arigoPLEX®Human Angiogenic Marker Multiplex ELISA kit standard curve image

ARG83510 arigoPLEX®Human Angiogenic Marker Multiplex ELISA kit results of a typical standard for Human HGF run with optical density reading at 450 nm.



ARG83510 arigoPLEX®Human Angiogenic Marker Multiplex ELISA kit standard curve image

ARG83510 arigoPLEX®Human Angiogenic Marker Multiplex ELISA kit results of a typical standard for Human IL6 run with optical density reading at 450 nm.