

ARG81419 Human TIE2 ELISA Kit

Package: 96 wells
Store at: 4°C

Component

Cat. No.	Component Name	Package	Temp
ARG81419-001	Antibody-coated microplate	8 X 12 strips	4°C. Unused strips should be sealed tightly in the air-tight pouch.
ARG81419-002	Standard	2 X 10 ng/vial	4°C
ARG81419-003	Standard/Sample diluent	30 ml (Ready to use)	4°C
ARG81419-004	Antibody conjugate concentrate (100X)	1 vial (100 µl)	4°C
ARG81419-005	Antibody diluent buffer	12 ml (Ready to use)	4°C
ARG81419-006	HRP-Streptavidin concentrate (100X)	1 vial (100 µl)	4°C
ARG81419-007	HRP-Streptavidin diluent buffer	12 ml (Ready to use)	4°C
ARG81419-008	25X Wash buffer	20 ml	4°C
ARG81419-009	TMB substrate	10 ml (Ready to use)	4°C (Protect from light)
ARG81419-010	STOP solution	10 ml (Ready to use)	4°C
ARG81419-011	Plate sealer	4 strips	Room temperature

Summary

Product Description	ARG81419 Human TIE2 ELISA Kit is an Enzyme Immunoassay kit for the quantification of Human TIE2 in serum, plasma (heparin, EDTA) and cell culture supernatants.
Tested Reactivity	Hu
Tested Application	ELISA
Specificity	There is cross-reactivity with Human TIE1 (< 0.1%).
Target Name	TIE2
Conjugation	HRP
Conjugation Note	Substrate: TMB and read at 450 nm.
Sensitivity	78 pg/ml
Sample Type	Serum, plasma (heparin, EDTA) and cell culture supernatants.
Standard Range	156 - 10000 pg/ml
Sample Volume	100 µl

Precision	Intra-Assay CV: 5.9% Inter-Assay CV: 7.2%
Alternate Names	Endothelial tyrosine kinase; VMCM1; VMCM; hTIE2; Tyrosine-protein kinase receptor TEK; Tyrosine-protein kinase receptor TIE-2; CD antigen CD202b; Tunica interna endothelial cell kinase; Tyrosine kinase with Ig and EGF homology domains-2; p140 TEK; TIE2; CD202B; EC 2.7.10.1; TIE-2; Angiopoietin-1 receptor

Application Instructions

Assay Time	~ 5 hours
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Properties

Form	96 well
Storage instruction	Store the kit at 2-8°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	TEK
Gene Full Name	TEK tyrosine kinase, endothelial
Background	This gene encodes a receptor that belongs to the protein tyrosine kinase Tie2 family. The encoded protein possesses a unique extracellular region that contains two immunoglobulin-like domains, three epidermal growth factor (EGF)-like domains and three fibronectin type III repeats. The ligand angiopoietin-1 binds to this receptor and mediates a signaling pathway that functions in embryonic vascular development. Mutations in this gene are associated with inherited venous malformations of the skin and mucous membranes. Alternative splicing results in multiple transcript variants. Additional alternatively spliced transcript variants of this gene have been described, but their full-length nature is not known. [provided by RefSeq, Feb 2014]
Function	Tyrosine-protein kinase that acts as cell-surface receptor for ANGPT1, ANGPT2 and ANGPT4 and regulates angiogenesis, endothelial cell survival, proliferation, migration, adhesion and cell spreading, reorganization of the actin cytoskeleton, but also maintenance of vascular quiescence. Has anti-inflammatory effects by preventing the leakage of proinflammatory plasma proteins and leukocytes from blood vessels. Required for normal angiogenesis and heart development during embryogenesis. Required for post-natal hematopoiesis. After birth, activates or inhibits angiogenesis, depending on the context. Inhibits angiogenesis and promotes vascular stability in quiescent vessels, where endothelial cells have tight contacts. In quiescent vessels, ANGPT1 oligomers recruit TEK to cell-cell contacts, forming complexes with TEK molecules from adjoining cells, and this leads to preferential activation of phosphatidylinositol 3-kinase and the AKT1 signaling cascades. In migrating endothelial cells that lack cell-cell adhesions, ANGPT1 recruits TEK to contacts with the extracellular matrix, leading to the formation of focal adhesion complexes, activation of PTK2/FAK and of the downstream kinases MAPK1/ERK2 and MAPK3/ERK1, and ultimately to the stimulation of sprouting angiogenesis. ANGPT1 signaling triggers receptor dimerization and autophosphorylation at specific tyrosine residues that then serve as binding sites for scaffold proteins and effectors. Signaling is modulated by ANGPT2 that has lower affinity for TEK, can promote TEK autophosphorylation in the absence of ANGPT1, but inhibits ANGPT1-mediated signaling by competing for the same binding site. Signaling is also modulated by formation of heterodimers with TIE1, and by proteolytic processing that gives rise to a soluble TEK extracellular domain. The soluble extracellular domain modulates signaling by functioning as decoy receptor for angiopoietins. TEK phosphorylates DOK2, GRB7, GRB14, PIK3R1; SHC1 and TIE1. [UniProt]
Highlight	Related products: TIE2 antibodies ; TIE2 ELISA Kits ; New ELISA data calculation tool: Simplify the ELISA analysis by GainData

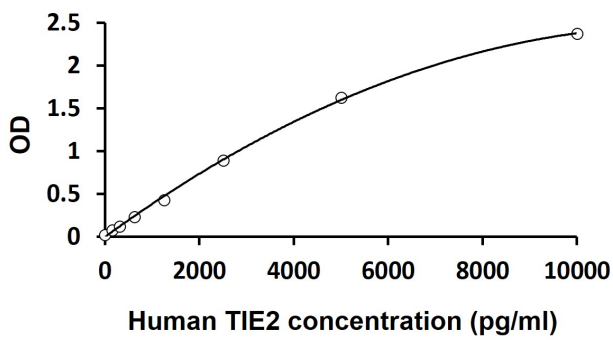
PTM

Proteolytic processing leads to the shedding of the extracellular domain (soluble TIE-2 alias sTIE-2).

Autophosphorylated on tyrosine residues in response to ligand binding. Autophosphorylation occurs in trans, i.e. one subunit of the dimeric receptor phosphorylates tyrosine residues on the other subunit. Autophosphorylation occurs in a sequential manner, where Tyr-992 in the kinase activation loop is phosphorylated first, followed by autophosphorylation at Tyr-1108 and at additional tyrosine residues. ANGPT1-induced phosphorylation is impaired during hypoxia, due to increased expression of ANGPT2. Phosphorylation is important for interaction with GRB14, PIK3R1 and PTPN11. Phosphorylation at Tyr-1102 is important for interaction with SHC1, GRB2 and GRB7. Phosphorylation at Tyr-1108 is important for interaction with DOK2 and for coupling to downstream signal transduction pathways in endothelial cells. Dephosphorylated by PTPRB.

Ubiquitinated. The phosphorylated receptor is ubiquitinated and internalized, leading to its degradation. [UniProt]

Images



ARG81419 Human TIE2 ELISA Kit standard curve image

ARG81419 Human TIE2 ELISA Kit results of a typical standard run with optical density reading at 450 nm.