EphA3 Cell Lysate – Tissue Lysate

PRODUCT OVERVIEW

Product Name	EphA3, Cell Lysate
Full Product Name	Human EphA3 HEK293 Overexpression Lysate
Product Gene Name	EphA3 cell lysate
Product Synonym Names	Human EphA3 HEK293 Cell Lysate (WB positive control); EPH receptor A3; Human EK4 Overexpression Lysate; Human ETK Overexpression Lysate; Human ETK1 Overexpression Lysate; Human HEK Overexpression Lysate; Human HEK4 Overexpression Lysate; Human TYRO4 Overexpression Lysate
Sequence	Met1-Gln54 1
Host	HEK293 Cells
Form/Format	1x Sample Buffer (1x modified RIPA buffer+1x SDS loading buffer). Modified RIPA Lysis Buffer: 50 mM Tris-HCl pH 7.4, 150 mM NaCl, 1mM EDTA, 1% Triton X-100, 0.1% SDS, 1% Sodium deoxycholate, 1mM PMSF.
Preparation and Storage	Store at 4 degree C for up to twelve months from date of receipt. After re-dissolution, aliquot and store at -80 degree C for up to twelve months. Avoid repeated freeze-thaw cycles. Samples are stable for up to twelve months from date of receipt.
Molecular Weight	110,131 Da
Sequence Positions	532aa
Chromosome Location	Chromosome: 3; NC_000003.11 (89156674..89531284). Location: 3p11.2
OMIM	114500
3D Structure	ModBase 3D Structure for P29320
Species	Human
Recommend Usage	1. Centrifuge the tube for a few seconds and ensure the pellet at the bottom of the tube.**2. Re-dissolve the pellet using 200uL pure water and boil for 2-5 min.**
Sequence Construction	A DNA sequence encoding the human EPHA3 (NP_005224.2) (Met1-Gln541) was expressed with a polyhistidine tag at the C-terminus.
Preparation Method	Cell lysate was prepared by homogenization of the over-expressed cells in ice-cold modified RIPA Lysis Buffer with cocktail of protease inhibitors. Cell debris was removed by centrifugation. Protein concentration was determined by Bradford assay (protein assay, Microplate Standard assay). The cell lysate was boiled for 5 min in 1 x SDS loading buffer (50mM Tris-HCl pH 6.8, 12.5% glycerol, 1% sodium dodecylsulfate, 0.01% bromophenol blue) containing 5% b-mercaptoethanol, and lyophilized.
Product Categories/Family for EphA3 cell lysate	Actin Dynamics Signaling Pathway
Applications Tested/Suitable for EphA3 cell lysate	Western Blot (WB)
Application Notes for EphA3 cell lysate	WB: Use at an assay dependent dilution.

Related Product Information for EphA3 cell lysate	EPHA3 gene belongs to the ephrin receptor subfamily of the protein-tyrosine kinase family. EPH and EPH-related receptors have been implicated in mediating developmental events, particularly in the nervous system. The ephrin receptors are divided into 2 groups based on the similarity of their extracellular domain sequences and their affinities for binding ephrin-A and ephrin-B ligands. EPHA3 gene encodes a protein that binds ephrin-A ligands. EPHA3 is involved in the retinotectal mapping of neurons. It may also control the segregation but not the guidance of motor and sensory axons during neuromuscular circuit development. This Human EphA3 overexpression lysate was created in HEK293 Cells and intented for use as a Western blot (WB) positive control. Purification of EphA3 protein from the overexpression lysate was verified.
Product References and Citations for EphA3 cell lysate	Holder N, et al. (1999) Eph receptors and ephrins: effectors of morphogenesis. Development. 126(10):2033-44. Wilkinson DG. (2000) Eph receptors and ephrins: regulators of guidance and assembly. Int Rev Cytol. 196:177-244. Xu Q, et al. (2001) Roles of Eph receptors and ephrins in segmental patterning. Philos Trans R Soc Lond B Biol Sci. 355(1399):993-1002.
Other Notes	Small volumes of EphA3 cell lysate vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for EphA3 purchase	MBS8114546 is a cell lysate targeting EphA3. Also known as Human EphA3 HEK293 Overexpression Lysate. Host: HEK293 Cells.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for EphA3. It may not necessarily be applicable to this product.

NCBI GI #	21361241
NCBI GeneID	2042
NCBI Accession #	NP_005224.2
UniProt Primary Accession #	P29320
UniProt Secondary Accession #	Q9H2V3; Q9H2V4
UniProt Related Accession #	P29320
GenBank Nucleotide #	NM_005233.5
NCBI Official Full Name	ephrin type-A receptor 3 isoform a
NCBI Official Synonym Full Names	EPH receptor A3
NCBI Official Symbol	EPHA3
NCBI Official Synonym Symbols	EK4; ETK; HEK; ETK1; HEK4; TYRO4
UniProt Protein Name	Ephrin type-A receptor 3
UniProt Synonym Protein Names	EPH-like kinase 4; EK4; hEK4; HEK; Human embryo kinase; Tyrosine-protein kinase TYRO4; Tyrosine-protein kinase receptor ETK1
Protein Family	Ephrin type-A receptor
UniProt Gene Name	EPHA3
UniProt Synonym Gene Names	ETK; ETK1; HEK; TYRO4; EK4; hEK4; Human embryo kinase
UniProt Entry Name	EPHA3_HUMAN
NCBI Protein Information	ephrin type-A receptor 3; EPH-like kinase 4; human embryo kinase 1; eph-like tyrosine kinase 1; TYRO4 protein tyrosine kinase; tyrosine-protein kinase receptor ETK1

NCBI Summary for EphA3	This gene belongs to the ephrin receptor subfamily of the protein-tyrosine kinase family. EPH and EPH-related receptors have been implicated in mediating developmental events, particularly in the nervous system. Receptors in the EPH subfamily typically have a single kinase domain and an extracellular region containing a Cys-rich domain and 2 fibronectin type III repeats. The ephrin receptors are divided into 2 groups based on the similarity of their extracellular domain sequences and their affinities for binding ephrin-A and ephrin-B ligands. This gene encodes a protein that binds ephrin-A ligands. Two alternatively spliced transcript variants have been described for this gene. [provided by RefSeq, Jul 2008]
UniProt Comments for EphA3	EphA3: a receptor tyrosine kinase of the Eph family. Receptor for members of the ephrin-A family: binds to ephrin-A2, -A3, -A4 and -A5The Eph receptor tyrosine kinase family, the largest in the tyrosine kinase group, has fourteen members. They bind membrane-anchored ligands, ephrins, at sites of cell-cell contact, regulating the repulsion and adhesion of cells that underlie the establishment, maintenance, and remodeling of patterns of cellular organization. Eph signals are particularly important in regulating cell adhesion and cell migration during development, axon guidance, homeostasis and disease. EphA receptors bind to GPI-anchored ephrin-A ligands, while EphB receptors bind to ephrin-B proteins that have a transmembrane and cytoplasmic domain. Interactions between EphB receptor kinases and ephrin-B proteins transduce signals bidirectionally, signaling to both interacting cell types. Eph receptors and ephrins also regulate the adhesion of endothelial cells and are required for the remodeling of blood vessels. Two point mutations seen in a survey of colorectal tumors. Soluble receptors reduce tumor growth and angiogenesis in mouse models. Two alternatively spliced isoforms of EphA3 have been described. Protein type: Protein kinase, tyrosine (receptor); Kinase, protein; Protein kinase, TK; EC 2.7.10.1; Membrane protein, integral; TK group; Eph family Chromosomal Location of Human Ortholog: 3p11.2 Cellular Component: integral to plasma membrane; early endosome; plasma membrane; extracellular region Molecular Function: protein binding; GPI-linked ephrin receptor activity; ATP binding Biological Process: axon guidance; cell migration; peptidyl-tyrosine phosphorylation; regulation of actin cytoskeleton organization and biogenesis; regulation of focal adhesion formation; ephrin receptor signaling pathway; cell adhesion
Research Articles on EphA3	**1.** EphA3 may play important roles in the angiogenesis and prognosis of gastric carcinoma
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