Data Sheet (Cat.No.TMPY-04427)

TargetMol

EphA2 Protein, Human, Recombinant (aa 585-976, His & GST)

General Information

Synonyms:	ARCC2;EPH receptor A2;CTPA;ECK;CTPP1;CTRCT6
Protein Construction:	A DNA sequence encoding the human EPHA2 (P29317) (Leu585-Ile976) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	P29317
Molecular Weight:	72.1 kDa (predicted); 62 kDa (reducing conditions)

QC Testing

Biological Activity:	The specific activity was determined to be 50 nmol/min/mg using Poly(Glu:Tyr) 4:1 as substrate.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 20 mM Tris, 500 mM NaCl, 3 mM DTT, pH 8.5, 10% gly.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

Eph receptor A2 (Ephrin type-A receptor 2 or EphA2) is a member of the ephrin receptor subfamily of the protein-tyrosine kinase family. The Eph receptors' corresponding family of ligands are the ephrins anchored to cell surfaces. The ephrins and Eph receptors are implicated as positional labels that may guide the development of neural topographic maps. They have also been found implicated in embryonic patterning, neuronal targeting, vascular development and adult neovascularization. The large family of ligands and receptors may make a major contribution to the accurate spatial patterning of connections and cell position in the nervous system. Furthermore, elevated expression of Eph receptors and ephrin ligands is associated with tumors and associated tumor vasculature, suggesting the Eph receptors and ephrin ligands also play critical roles in tumor angiogenesis

and tumor growth. Unlike most Eph kinases, which are primarily expressed during development, EphA2 is primarily found in adult human epithelial cells. The cellular functions of EphA2 may be regulating cell growth, survival, migration, and angiogenesis.Unlike other receptor tyrosine kinases, ligand binding is not necessary for EphA2. Rather, the ligand appears to regulate EphA2 subcellular localization and its interactions with downstream adapter and signaling proteins. Eph receptor A2(EphA2) has been demonstrated to critically regulate tumor cell growth, migration and invasiveness. Eph receptor A2(EphA2) is frequently overexpressed and functionally altered in aggressive tumor cells, and that these changes promote metastatic character.

Reference

Flanagan JG, et al. (1998) The ephrins and Eph receptors in neural development. Annu Rev Neurosci. 21: 309-45.
Cheng N, et al. (2002) The ephrins and Eph receptors in angiogenesis. Cytokine Growth Factor Rev. 13(1): 75-85.
Pratt RL, et al. (2002) Activation of the EphA2 tyrosine kinase stimulates the MAP/ERK kinase signaling cascade. Oncogene. 21(50): 7690-9.
Jennifer Walker-Daniels, et al. (2003) Differential Regulation of EphA2 in Normal and Malignant Cells. Am J Pathol. 162(4): 1037-1042.