Data Sheet (Cat.No.TMPY-05787)

TargetMol

PDGFRA Protein, Mouse, Recombinant (His)

General Information

Synonyms:	CD140a;platelet-derived growth factor receptor, alpha polypeptide;Pdgfr-2;AI115593; platelet-derived growth factor receptor, α polypeptide
Protein Construction:	A DNA sequence encoding the Mouse PDGFRA (NP_001334647.1) (Met1-Ala528) was expressed with a polyhistide tag at the C-terminus. Predicted N terminal: Leu 25
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	P26618-2
Molecular Weight:	57.87 kDa (predicted)

QC Testing

Biological Activity:	Measured by its binding ability in a functional ELISA. Immobilized Mouse PDGFRA His at 2 μg/ml (100 μl/well) can bind Cynomolgus PDGF-B mFc, the EC50 of Cynomolgus PDGF-B mFc is 150-700 ng/mL.
Purity:	> 95 % as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

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 recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

PDGFRA, also known as CD140a, together with the structurally homolog protein PDGFRB (CD140b), are cell surface receptors for members of the platelet-derived growth factor family. They are members of the class III subfamily of receptor tyrosine kinase (RTKs) with the similar structure characteristics of five immunoglobulin-like domains in

their extracellular region and a split kinase domain in their intracellular region. PDGFRA is expressed in oligodendrocyte progenitor cells and mesothelial cell, and binds all three ligand isoforms PDGF-AA, PDGF-BB and PDGF-AB with high affinity, whereas PDGFRB dose not bind PDGF-AA. PDGFRA plays an essential role in regulating proliferation, chemotaxis and migration of mesangial cells. Recent studies have indicated that PDGFRA acts as a critical mediator of signaling in testis organogenesis and Leydig cell differentiation, and in addition, particularly important for kidney development. Additionally, PDGFRA is involved in tumor angiogenesis and maintenance of the tumor microenvironment and has been implicated in development and metastasis of Hepatocellular carcinoma (HCC). PDGFRA may represent a potential therapeutic target in thymic tumours. PDGFRA gene amplification rather than gene mutation may be the underlying genetic mechanism driving PDGFRA overexpression in a portion of gliomas.Cancer ImmunotherapyImmune CheckpointImmunotherapyTargeted Therapy

Reference

Oseini AM,et al.(2009) PDGFRalpha: a new therapeutic target in the treatment of hepatocellular carcinoma? Expert Opin Ther Targets. 13(4): 443-54.

Meister M,et al.(2009) Expression and mutational status of PDGFR in thymic tumours. Anticancer Res. 29(10): 4057-61.

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