Data Sheet (Cat.No.TMPY-03098)

TargetMol

DDR2 Protein, Rat, Recombinant (hFc)

General Information

Synonyms:	discoidin domain receptor tyrosine kinase 2
Protein Construction:	A DNA sequence encoding the rat DDR2 (B1WC09) (Met1-Arg399) was expressed, fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Gln 24
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	B1WC09
Molecular Weight:	69.5 kDa (predicted); 110 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to bind with Rat tail Collagen I in a functional ELISA.
Purity:	> 80 % 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.

Shipping:

In general, Lyophilized powders are shipping with blue ice.

Protein Background

Discoidin domain receptor 2 (DDR2) or CD167b (cluster of differentiation 167b) is a kind of protein tyrosine kinases associated with cell proliferation and tumor metastasis, and collagen, identified as a ligand for DDR2, up-regulates matrix metallloproteinase 1 (MMP-1) and MMP-2 expression in cellular matrix. DDR2/CD167b was found to recognise the triple-helical region of collagen X as well as the NC1 domain. Binding to the collagenous region was dependent on the triple-helical conformation. DDR2/CD167b autophosphorylation was induced by the collagen X triple-helical region but not the NC1 domain, indicating that the triple-helical region of collagen X

contains a specific DDR2 binding site that is capable of receptor activation. DDR2/CD167b is induced during stellate cell activation and implicate the phosphorylated receptor as a mediator of MMP-2 release and growth stimulation in response to type I collagen. Moreover, type I collagen-dependent upregulation of DDR2/CD167b expression establishes a positive feedback loop in activated stellate cells, leading to further proliferation and enhanced invasive activity.Cancer ImmunotherapyImmune CheckpointImmunotherapyTargeted Therapy

Reference

Olaso E, et al. (2001) DDR2 receptor promotes MMP-2-mediated proliferation and invasion by hepatic stellate cells. J Clin Invest. 108(9): 1369-78.

Zhang W, et al. (2006) Expression of discoidin domain receptor 2 (DDR2) extracellular domain in pichia pastoris and functional analysis in synovial fibroblasts and NIT3T3 cells. Mol Cell Biochem. 290(1-2): 43-53.

Leitinger B, et al. (2006) The discoidin domain receptor DDR2 is a receptor for type X collagen. Matrix Biol. 25(6): 355-64.

Leitinger B, et al. (2004) The D2 period of collagen II contains a specific binding site for the human discoidin domain receptor, DDR2. J Mol Biol. 344(4): 993-1003.