

DDR1 Protein, Mouse, Recombinant (His & GST)

General Information

Synonyms:	6030432F18;Nep;Cak;AI323681;CD167a;discoidin domain receptor tyrosine kinase 1;PTK3A
Protein Construction:	A DNA sequence encoding the mouse DDR1 (Q03146-2) (Leu444-Val874) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met
Species:	Mouse
Expression Host:	Baculovirus Insect Cells
Accession:	Q03146-2
Molecular Weight:	75.8kDa (predicted); 68 kDa (reducing conditions)

QC Testing

Biological Activity:	The specific activity was determined to be 2 nmol/min/mg using synthetic modified AXLtide peptide (modified-CKKSRGDYMTMQIG) as substrate.
Purity:	≥ 85 % 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, pH 7.4, 10% glycerol, 2 mM DTT.

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

Discoidin domain receptor family, member 1 (DDR1), also known as or CD167a (cluster of differentiation 167a), and Mammary carcinoma kinase 10 (MCK10), belongs to a subfamily of tyrosine kinase receptors with an extracellular domain homologous to Dictyostellium discoideum protein discoidin 1. Receptor tyrosine kinases play a key role in the communication of cells with their microenvironment. These kinases are involved in the regulation of cell growth, differentiation and metabolism. Expression of DDR1/MCK10/CD167 is restricted to epithelial cells, particularly in the kidney, lung, gastrointestinal tract, and brain. In addition, it has been shown to be significantly overexpressed in several human tumors. DDR1/MCK10/CD167 plays an important role in regulating attachment to collagen, chemotaxis, proliferation, and MMP production in smooth muscle cells. DDR1 functions in a feedforward

loop to increase p53 levels and at least some of its effectors. Inhibition of DDR1 function resulted in strikingly increased apoptosis of wild-type p53-containing cells in response to genotoxic stress through a caspase-dependent pathway.

Reference

Hou G, et al. (2001) The discoidin domain receptor tyrosine kinase DDR1 in arterial wound repair. *J Clin Invest.* 107(6): 727-35.

Ongusaha PP, et al. (2003) p53 induction and activation of DDR1 kinase counteract p53-mediated apoptosis and influence p53 regulation through a positive feedback loop. *EMBO J.* 22(6): 1289-301.

Jönsson M, et al. (2001) Repression of Wnt-5a impairs DDR1 phosphorylation and modifies adhesion and migration of mammary cells. *J Cell Sci.* 114(11): 2043-53.

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