

## DDR1 Protein, Mouse (sf9, His-GST)

Cat. No.:	HY-P75301
Synonyms:	Epithelial discoidin domain-containing receptor 1; HGK2; CD167a; CAK; EDDR1
Species:	Mouse
Source:	Sf9 insect cells
Accession:	Q03146-2 (L444-V874)
Gene ID:	12305
Molecular Weight:	Approximately 68 kDa

### PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Solution.
Formulation	Supplied as a 0.2 µm filtered solution of 20 mM Tris, 500 mM NaCl, pH 7.4, 10% glycerol, 2 mM DTT.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

### DESCRIPTION

#### Background

DDR1 protein, a tyrosine kinase functioning as a cell surface receptor for fibrillar collagen, orchestrates diverse cellular processes critical for tissue homeostasis. It regulates cell attachment to the extracellular matrix, influencing matrix remodeling, cell migration, differentiation, survival, and proliferation. Upon collagen binding, DDR1 initiates a signaling cascade involving SRC and leading to MAP kinase activation. This intricate network contributes to extracellular matrix remodeling through the up-regulation of matrix metalloproteinases MMP2, MMP7, and MMP9, facilitating cell migration and wound healing, as well as promoting tumor cell invasion. DDR1's impact extends to arterial wound healing by promoting smooth muscle cell migration. Furthermore, it phosphorylates PTPN11 and is indispensable for normal blastocyst implantation during pregnancy, mammary gland differentiation, lactation, and maintenance of normal ear morphology and hearing. The multifunctional role of DDR1 underscores its significance in governing diverse physiological processes.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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