

DDR1 Protein, Rat (HEK293, hFc)

Cat. No.:	HY-P75300
Synonyms:	Epithelial discoidin domain-containing receptor 1; HGK2; CD167a; CAK; EDDR1
Species:	Rat
Source:	HEK293
Accession:	Q6MG19 (M1-T413)
Gene ID:	25678
Molecular Weight:	Approximately 71 kDa

PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μ m filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/ μ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>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.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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