

## DDR1 Protein, Human (HEK293, His)

Cat. No.:	HY-P75305
Synonyms:	Epithelial discoidin domain-containing receptor 1; HGK2; CD167a; CAK; EDDR1
Species:	Human
Source:	HEK293
Accession:	Q08345 (D19-T416)
Gene ID:	780
Molecular Weight:	55-70 kDa

### PROPERTIES

<b>Biological Activity</b>	<ol style="list-style-type: none"> <li>1. Immobilized Human DDR1, His Tag at 0.5 µg/mL (100 µl/well) on the plate. Dose response curve for Anti-DDR1 Antibody, hFc Tag with the EC<sub>50</sub> of &lt;12.8 ng/mL determined by ELISA (QC Test).</li> <li>2. Human DDR1, His Tag captured on CM5 Chip via Anti-His Antibody can bind Native Human Collagen I protein with an affinity constant of 0.806 nM as determined in SPR assay (Biacore T200).</li> </ol>
<b>Appearance</b>	Lyophilized powder
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
<b>Storage &amp; Stability</b>	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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	<p>DDR1 protein serves as a tyrosine kinase and functions as a cell surface receptor for fibrillar collagen, playing a pivotal role in regulating cell attachment to the extracellular matrix and influencing processes such as extracellular matrix remodeling, cell migration, differentiation, survival, and proliferation. Upon collagen binding, DDR1 initiates a signaling cascade involving SRC and activates MAP kinases. This activation, in turn, leads to the up-regulation of matrix metalloproteinases MMP2, MMP7, and MMP9, facilitating extracellular matrix remodeling and promoting cell migration and wound healing. DDR1's significance extends to various physiological processes, including normal blastocyst implantation during pregnancy, mammary gland differentiation, lactation, and the maintenance of ear morphology and hearing. Additionally, DDR1 contributes to arterial wound healing by promoting smooth muscle cell migration and plays a role in tumor cell invasion, further underscoring its diverse functional repertoire. Notably, DDR1 phosphorylates PTPN11 as part of its regulatory activities.</p>
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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