

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human DDR1 in direct ELISAs and Western blots. In sandwich immunoassays, approximately 5% cross-reactivity with recombinant human DDR2 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human DDR1 Asp21-Thr416 Accession # Q08345
<b>Conjugate</b>	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
<b>Formulation</b>	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

<b>Western Blot</b>	Optimal dilution of this antibody should be experimentally determined.
<b>Immunohistochemistry</b>	Optimal dilution of this antibody should be experimentally determined.

## PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

## BACKGROUND

DDR1, also known as CAK, CD167a, RTK6, and TrkE, is a 120-140 kDa type I transmembrane glycoprotein that belongs to the discoidin-like domain containing subfamily of receptor tyrosine kinases. Mature human DDR2 consists of a 398 amino acid (aa) extracellular domain (ECD) that includes the discoidin-like domain, a 27 aa transmembrane segment, and a 470 aa cytoplasmic region with a tyrosine kinase domain. Within the ECD, human DDR1 shares 53% aa sequence identity with human DDR2 and 93% with mouse and rat DDR1. DDR1 is expressed on epithelial tissues, activated monocytes and neutrophils, and in several cancers. Compared to isoform DDR1b, DDR1a lacks 37 aa's that include a Shc-interacting NPxY motif in the cytoplasmic juxtamembrane region. Two additional kinase deficient splice forms are expressed in colon cancer. The discoidin-like domain mediates binding to collagens I-V. DDR1 selectively recognizes the triple helical structure of collagen. It is expressed on the cell surface as a dimer which can include different isoforms. DDR1 oligomerization enhances collagen binding and also modulates collagen fibrillogenesis. The transmembrane segment contains a leucine zipper and GxxxG motif, but neither is exclusively required for dimerization. Collagen binding induces prolonged autophosphorylation, including the NPxY motif. Collagen binding also results in the proteolytic cleavage of a tyrosine phosphorylated 60 kDa C-terminal fragment (CTF), and a 60 kDa ECD fragment. TIMP3 and TAPI-1 inhibit shedding of the ECD fragment but not the CTF. Over-expression of DDR1a promotes MMP-2 activation and results in an increased invasiveness of a glioblastoma cell line; DDR1b does not.

## PRODUCT SPECIFIC NOTICES

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