Human DDR1 Alexa Fluor® 750-conjugated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2396S
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human DDR1 in direct ELISAs and Western blots. In sandwich immunoassays, approximately 5% cross-reactivity with recombinant human DDR2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human DDR1 Asp21-Thr416 Accession # Q08345
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
Formulation	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.*

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	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.

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Bio-Techne®
Global | bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL: 1.612.379.2956
USA | TEL: 800.343.7475 Canada | TEL: 855.668.8722 Europe | Middle East | Africa TEL: +44.0.1235.529449
China | info.cn@bio-techne.com TEL: 400.821.3475