SANTA CRUZ BIOTECHNOLOGY, INC.

# DDR1 (C-6): sc-374618

## BACKGROUND

The majority of the large number of receptor tyrosine kinases that have been identified can be categorized into distinct families based on the structure of their extracellular domains. Only a limited number of ligands for the receptors have been described, and while the majority of the ligands identified are soluble factors, an increasing number of receptors have been shown to bind to cell-surface molecules. Discoidin domain receptor 1 (DDR1), previously identified as Cak, for cell adhesion kinase (and also designated MCK-10, EDDR1, NEP, Ptk-3, RTK6, trk E or NTRK4) and discoidin domain receptor 2 (DDR2) comprise a new family of receptor tyrosine kinases involved in cell-cell interactions. Both DDR1 and DDR2 have been shown to be activated by collagen. Evidence suggests that a docking site for the Shc phosphotyrosine binding domain is phosphorylated in response to activation of DDR1 by collagen, whereas collagen activation of DDR2 results in upregulation of matrix metalloproteinase-1 expression.

## CHROMOSOMAL LOCATION

Genetic locus: DDR1 (human) mapping to 6p21.33.

## SOURCE

DDR1 (C-6) is a mouse monoclonal antibody raised against a peptide mapping at the C-terminus of DDR1 of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_{2b}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DDR1 (C-6) is available conjugated to agarose (sc-374618 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374618 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374618 PE), fluorescein (sc-374618 FITC), Alexa Fluor® 488 (sc-374618 AF488), Alexa Fluor® 546 (sc-374618 AF546), Alexa Fluor® 594 (sc-374618 AF594) or Alexa Fluor® 647 (sc-374618 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374618 AF680) or Alexa Fluor® 790 (sc-374618 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374618 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

DDR1 (C-6) is recommended for detection of DDR1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for DDR1 siRNA (h): sc-35187, DDR1 shRNA Plasmid (h): sc-35187-SH and DDR1 shRNA (h) Lentiviral Particles: sc-35187-V.

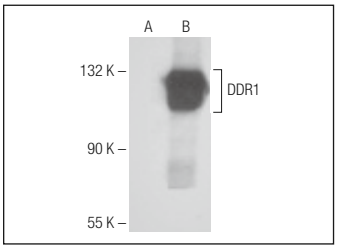
Molecular Weight of glycosylated DDR1: 125 kDa.

Molecular Weight of non-glycosylated DDR1: 100 kDa.

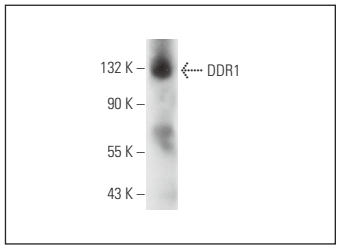
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA




DDR1 (C-6): sc-374618. Western blot analysis of DDR1 expression in non-transfected (**A**) and human DDR1 transfected (**B**) HEK293T whole cell lysates.




DDR1 (C-6): sc-374618. Western blot analysis of DDR1 expression in human hippocampus tissue extract.

## SELECT PRODUCT CITATIONS


1. Coelho, N.M., et al. 2020. MRIP regulates the Myosin IIA activity and DDR1 function to enable collagen tractional remodeling. Cells 9: 1672.
2. Sammon, D., et al. 2020. Two-step release of kinase autoinhibition in discoidin domain receptor 1. Proc. Natl. Acad. Sci. USA 117: 22051-22060.
3. Ko, S., et al. 2022. A novel DDR1 inhibitor enhances the anticancer activity of gemcitabine in pancreatic cancer. Am. J. Cancer Res. 12: 4326-4342.
4. Silva, M.E., et al. 2023. DDR1 and its ligand, collagen IV, are involved in *in vitro* oligodendrocyte maturation. Int. J. Mol. Sci. 24: 1742.
5. Ji, C., et al. 2023. TRPV4 regulates β1 integrin-mediated cell-matrix adhesions and collagen remodeling. FASEB J. 37: e22946.


## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.