SANTA CRUZ BIOTECHNOLOGY, INC.

DDR1 (D-10): sc-390268

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

REFERENCES

1. Ullrich, A., et al. 1990. Signal transduction by receptors with tyrosine kinase activity. Cell 61: 203-212.
2. Pawson, T., et al. 1990. Receptor tyrosine kinases: genetic evidence for their role in *Drosophila* and mouse development. Trends Genet. 6: 350-356.

CHROMOSOMAL LOCATION

Genetic locus: DDR1 (human) mapping to 6p21.33; Ddr1 (mouse) mapping to 17 B1.

SOURCE

DDR1 (D-10) is a mouse monoclonal antibody raised against amino acids 291-416 of DDR1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

DDR1 (D-10) is recommended for detection of DDR1 of mouse, rat and 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 siRNA (m): sc-35188, DDR1 shRNA Plasmid (h): sc-35187-SH, DDR1 shRNA Plasmid (m): sc-35188-SH, DDR1 shRNA (h) Lentiviral Particles: sc-35187-V and DDR1 shRNA (m) Lentiviral Particles: sc-35188-V.

Molecular Weight of glycosylated DDR1: 125 kDa.

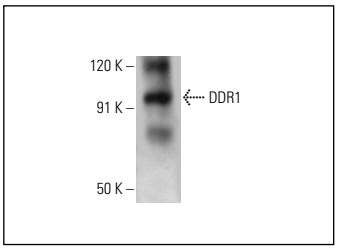
Molecular Weight of non-glycosylated DDR1: 100 kDa.

Positive Controls: human hippocampus tissue extract or rat brain extract: sc-2392.

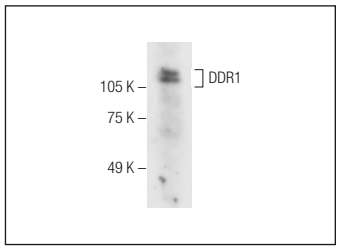
RECOMMENDED SUPPORT REAGENTS

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 (D-10): sc-390268. Western blot analysis of DDR1 expression in rat brain tissue extract.



DDR1 (D-10): sc-390268. Western blot analysis of DDR1 expression in human hippocampus tissue extract.

SELECT PRODUCT CITATIONS

1. Azizi, R., et al. 2019. Inhibition of didscoidin domain receptor 1 reduces epithelial-mesenchymal transition and induce cell-cycle arrest and apoptosis in prostate cancer cell lines. J. Cell. Physiol. 234: 19539-19552.
2. Chen, Y.Y., et al. 2021. ZEB1 induces DDR1 promoter hypermethylation and contributes to the chronic pain in spinal cord in rats following oxaliplatin treatment. Neurochem. Res. 46: 2181-2191.
3. Liu, J., et al. 2023. Endothelial discoidin domain receptor 1 senses flow to modulate YAP activation. Nat. Commun. 14: 6457.

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.