

DDR2 (H-108): sc-8989

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, NTRK4, RTK6 or trk E, 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: DDR2 (human) mapping to 1q23.3; Ddr2 (mouse) mapping to 1 H3.

SOURCE

DDR2 (H-108) is a rabbit polyclonal antibody raised against amino acids 292-399 mapping within the extracellular domain of DDR2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

DDR2 (H-108) is recommended for detection of DDR2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

DDR2 (H-108) is also recommended for detection of DDR2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for DDR2 siRNA (h): sc-39922, DDR2 siRNA (m): sc-39923, DDR2 shRNA Plasmid (h): sc-39922-SH, DDR2 shRNA Plasmid (m): sc-39923-SH, DDR2 shRNA (h) Lentiviral Particles: sc-39922-V and DDR2 shRNA (m) Lentiviral Particles: sc-39923-V.

Molecular Weight of DDR2: 116 kDa.

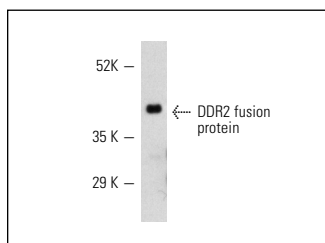
Positive Controls: Mv 1 Lu cell lysate: sc-3810 or PC-3 cell lysate: sc-2220.

STORAGE

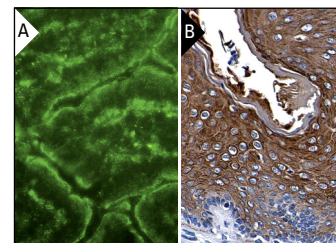
Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

DATA

DDR2 (H-108): sc-8989. Western blot analysis of human recombinant DDR2 fusion protein.



DDR2 (H-108): sc-8989. Immunofluorescence staining of normal mouse intestine frozen section showing membrane staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human vulva/anal skin tissue showing cytoplasmic and membrane staining of surface epithelial cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

1. Ferri, N., et al. 2004. Role of discoidin domain receptors 1 and 2 in human smooth muscle cell-mediated collagen remodeling. *Am. J. Pathol.* 164: 1575-1585.
2. Su, J., et al. 2009. Discoidin domain receptor 2 is associated with the increased expression of matrix metalloproteinase-13 in synovial fibroblasts of rheumatoid arthritis. *Mol. Cell. Biochem.* 330: 141-152.
3. Lin, K.L., et al. 2010. Transcriptional upregulation of DDR2 by ATF4 facilitates osteoblastic differentiation through p38 MAPK-mediated Runx2 activation. *J. Bone Miner. Res.* 25: 2489-2503.
4. Xu, L., et al. 2011. Intact pericellular matrix of articular cartilage is required for unactivated discoidin domain receptor 2 in the mouse model. *Am. J. Pathol.* 179: 1338-1346.
5. Kouris, N.A., et al. 2011. A nondenatured, noncrosslinked collagen matrix to deliver stem cells to the heart. *Regen. Med.* 6: 569-582.
6. Holt, D.W., et al. 2012. Osteoarthritis-like changes in the heterozygous sedc mouse associated with the HtrA1-Ddr2-Mmp-13 degradative pathway: a new model of osteoarthritis. *Osteoarthritis Cartilage* 20: 430-439.
7. Gordon, O., et al. 2012. Vascular endothelial growth factor-induced neovascularization rescues cardiac function but not adverse remodeling at advanced ischemic heart disease. *Arterioscler. Thromb. Vasc. Biol.* 32: 1642-1651.

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