SANTA CRUZ BIOTECHNOLOGY, INC.

DDR2 (3B11E4): sc-81707

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, 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 (3B11E4) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 422-639 of DDR2 of human origin.

PRODUCT

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

DDR2 (3B11E4) is available conjugated to agarose (sc-81707 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-81707 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-81707 PE), fluorescein (sc-81707 FITC), Alexa Fluor® 488 (sc-81707 AF488), Alexa Fluor® 546 (sc-81707 AF546), Alexa Fluor® 594 (sc-81707 AF594) or Alexa Fluor® 647 (sc-81707 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-81707 AF680) or Alexa Fluor® 790 (sc-81707 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

DDR2 (3B11E4) 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

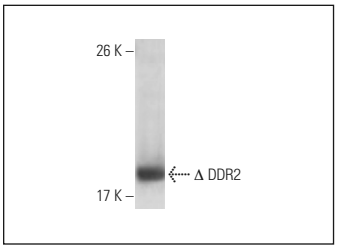
Suitable for use as control antibody for DDR2 siRNA (h): sc-39922, DDR2 siRNA (m): sc-39923, DDR2 shRNA Plasmid (h): sc-39922-SH, DDR2 shRNA Plasmid (m): sc-39923-SH, DDR2 shRNA (h) Lentiviral Particles: sc-39922-V and DDR2 shRNA (m) Lentiviral Particles: sc-39923-V.

Molecular Weight of DDR2: 116 kDa.

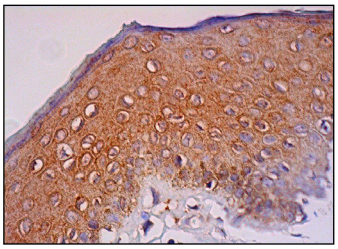
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



DDR2 (3B11E4): sc-81707. Western blot analysis of truncated human recombinant DDR2 protein.



DDR2 (3B11E4): sc-81707. Immunoperoxidase staining of formalin fixed, paraffin-embedded human vulva/ anal skin tissue showing cytoplasmic staining of epidermal cells.

SELECT PRODUCT CITATIONS

1. Kapur, N.K., et al. 2012. Reduced endoglin activity limits cardiac fibrosis and improves survival in heart failure. Circulation 125: 2728-2738.
2. Testa, G., et al. 2020. Bmi1 inhibitor PTC-209 promotes chemically-induced direct cardiac reprogramming of cardiac fibroblasts into cardiomyocytes. Sci. Rep. 10: 7129.
3. Zhang, X.J., et al. 2021. Pharmacological inhibition of arachidonate 12-lipoxygenase ameliorates myocardial ischemia-reperfusion injury in multiple species. Cell Metab. 33: 2059-2075.e10.
4. Pivato, R., et al. 2022. hESC derived cardiomyocyte biosensor to detect the different types of arrhythmogenic properties of drugs. Anal. Chim. Acta 1216: 339959.
5. Tang, N., et al. 2022. TRPC channels blockade abolishes endotoxemic cardiac dysfunction by hampering intracellular inflammation and Ca^{2+} leakage. Nat. Commun. 13: 7455.

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.