SANTA CRUZ BIOTECHNOLOGY, INC.

Notch 4 (A-12): sc-393893

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The LIN-12/Notch transmembrane receptors are believed to play a central role in development by regulating cell fate decisions. Four Notch homologs (Notch 1, Notch 2, Notch 3 and Notch 4) have been identified in mammals. The Notch genes are expressed in a variety of embryonic and adult tissues, suggesting that the genes are involved in multiple signaling pathways. Notch proteins have been found to be overexpressed or rearranged in human tumors. Ligands for Notch include Jagged1, Jagged2 and Delta. Jagged1 can activate Notch and prevent myoblast differentiation by inhibiting the expression of muscle regulatory and structural genes. Jagged2 may be involved in tissue development that is dependent upon epithelial-mesenchymal interactions. In addition to its normal expression in the adrenal gland and placenta, Delta expression has also been found in neuroendocrine tumors.

CHROMOSOMAL LOCATION

Genetic locus: NOTCH4 (human) mapping to 6p21.32; Notch4 (mouse) mapping to 17 B1.

SOURCE

Notch 4 (A-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1933-1964 at the C-terminus of Notch 4 of mouse 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.

Notch 4 (A-12) is available conjugated to agarose (sc-393893 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-393893 PE), fluorescein (sc-393893 FITC), Alexa Fluor® 488 (sc-393893 AF488), Alexa Fluor® 546 (sc-393893 AF546), Alexa Fluor® 594 (sc-393893 AF594) or Alexa Fluor® 647 (sc-393893 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393893 AF680) or Alexa Fluor® 790 (sc-393893 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393893 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Notch 4 (A-12) is recommended for detection of Notch 4 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 Notch 4 siRNA (h): sc-40137, Notch 4 siRNA (m): sc-40138, Notch 4 shRNA Plasmid (h): sc-40137-SH, Notch 4 shRNA Plasmid (m): sc-40138-SH, Notch 4 shRNA (h) Lentiviral Particles: sc-40137-V and Notch 4 shRNA (m) Lentiviral Particles: sc-40138-V.

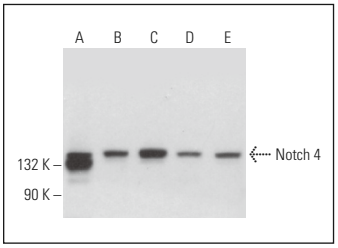
Molecular Weight (predicted) of Notch 4 isoforms 1/2/3: 210/61/40 kDa.

Molecular Weight (observed) of Notch 4: 117-218 kDa.

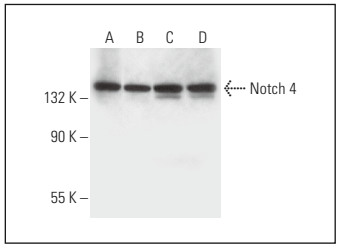
STORAGE

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

DATA



Notch 4 (A-12): sc-393893. Western blot analysis of Notch 4 expression in Jurkat (**A**), SH-SY5Y (**B**), MM-142 (**C**), A-10 (**D**) and PC-12 (**E**) whole cell lysates.



Notch 4 (A-12): sc-393893. Western blot analysis of Notch 4 expression in NIH/3T3 (**A**), MH-S (**B**), AMJ2-C8 (**C**) and AMJ2-C11 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wu, F., et al. 2017. Cardioprotective effect of Notch signaling on the development of myocardial infarction complicated by diabetes mellitus. Exp. Ther. Med. 14: 3447-3454.
2. Sindi, H.A., et al. 2020. Therapeutic potential of KLF2-induced exosomal microRNAs in pulmonary hypertension. Nat. Commun. 11: 1185.
3. Peiffer, D.S., et al. 2020. DAXX-inducing phytoestrogens inhibit ER^+ tumor initiating cells and delay tumor development. NPJ Breast Cancer 6: 37.
4. Wang, W., et al. 2021. GALNT2 promotes cell proliferation, migration, and invasion by activating the Notch/Hes1-PTEN-PI3K/Akt signaling pathway in lung adenocarcinoma. Life Sci. 276: 119439.
5. Marquez-Exposito, L., et al. 2021. Deletion of Delta-like 1 homologue accelerates renal inflammation by modulating the Th17 immune response. FASEB J. 35: e21213.
6. Kraus, X., et al. 2022. Peripheral blood derived endothelial colony forming cells as suitable cell source for pre-endothelialization of arterial vascular grafts under dynamic flow conditions. Microvasc. Res. 143: 104402.
7. Fan, L., et al. 2022. Caspase-4/11 is critical for angiogenesis by repressing Notch 1 signaling via inhibiting γ-secretase activity. Br. J. Pharmacol. 179: 4809-4828.
8. Wang, Y., et al. 2023. Notch 4 participates in mesenchymal stem cell-induced differentiation in 3D-printed matrix and is implicated in eccrine sweat gland morphogenesis. Burns Trauma 11: tkad032.
9. Renzelmann, J., et al. 2024. Sustainability of shear stress conditioning in endothelial colony-forming cells compared to human aortic endothelial cells to underline suitability for tissue-engineered vascular grafts. Microvasc. Res. 157: 104746.

RESEARCH USE

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