SANTA CRUZ BIOTECHNOLOGY, INC.

NPRL2 (F-3): sc-376986

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

NPRL2, also known as TUSC4 (tumor suppressor candidate 4), is a 380 amino acid protein that contains a bipartite nuclear localization signal and a granulin protein-binding domain. It is highly expressed in skeletal muscle, followed by brain, liver and pancreas, with lower expression in lung, kidney, placenta and heart. NPRL2 is also expressed in most lung cancer cell lines and may be involved in tumor suppression. NPRL2 may play a role in mismatch repair, cell cycle checkpoint signaling and activation of apoptotic pathways. It may also enhance the therapeutic efficacy of chemotherapy drugs such as cisplatin by resensitizing patients resistant to cisplatin treatment. The gene encoding NPRL2 is conserved between species and is expressed as two isoforms due to alternative splicing events.

CHROMOSOMAL LOCATION

Genetic locus: NPRL2 (human) mapping to 3p21.31; Nprl2 (mouse) mapping to 9 F1.

SOURCE

NPRL2 (F-3) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of NPRL2 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.

NPRL2 (F-3) is available conjugated to agarose (sc-376986 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376986 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376986 PE), fluorescein (sc-376986 FITC), Alexa Fluor® 488 (sc-376986 AF488), Alexa Fluor® 546 (sc-376986 AF546), Alexa Fluor® 594 (sc-376986 AF594) or Alexa Fluor® 647 (sc-376986 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376986 AF680) or Alexa Fluor® 790 (sc-376986 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

NPRL2 (F-3) is recommended for detection of NPRL2 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), 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).

NPRL2 (F-3) is also recommended for detection of NPRL2 in additional species, including canine and porcine.

Suitable for use as control antibody for NPRL2 siRNA (h): sc-62699, NPRL2 siRNA (m): sc-62700, NPRL2 shRNA Plasmid (h): sc-62699-SH, NPRL2 shRNA Plasmid (m): sc-62700-SH, NPRL2 shRNA (h) Lentiviral Particles: sc-62699-V and NPRL2 shRNA (m) Lentiviral Particles: sc-62700-V.

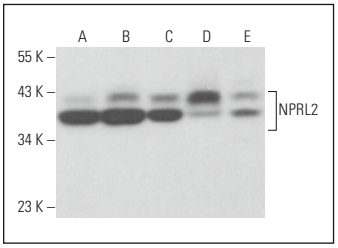
Molecular Weight of NPRL2: 44 kDa.

Positive Controls: SK-MEL-24 whole cell lysate: sc-364259, PC-3 cell lysate: sc-2220 or Sol8 cell lysate: sc-2249.

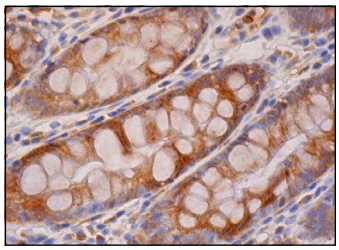
STORAGE

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

DATA



NPRL2 (F-3): sc-376986. Western blot analysis of NPRL2 expression in MIA PaCa-2 (**A**), SK-MEL-24 (**B**), GA-10 (**C**), PC-3 (**D**) and Sol8 (**E**) whole cell lysates.



NPRL2 (F-3): sc-376986. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Kim, J.S., et al. 2015. Sestrin2 inhibits mTORC1 through modulation of GATOR complexes. Sci. Rep. 5: 9502.
2. Liu, M.N., et al. 2015. Functional mechanism of the enhancement of 5-fluorouracil sensitivity by TUSC4 in colon cancer cells. Oncol. Lett. 10: 3682-3688.
3. Liu, M.N., et al. 2015. Nitrogen permease regulator-like 2 enhances sensitivity to oxaliplatin in colon cancer cells. Mol. Med. Rep. 12: 1189-1196.
4. Peng, M., et al. 2017. SZT2 dictates GATOR control of mTORC1 signalling. Nature 543: 433-437.
5. Liu, A., et al. 2019. Nitrogen permease regulator-like-2 exhibited anti-tumor effects and enhanced the sensitivity of colorectal cancer cells to oxaliplatin and 5-fluorouracil. Onco Targets Ther. 12: 8637-8644.
6. Dawson, R.E., et al. 2020. Functional screening of GATOR1 complex variants reveals a role for mTORC1 deregulation in FCD and focal epilepsy. Neurobiol. Dis. 134: 104640.
7. Wang, D., et al. 2022. E3 ligase RNF167 and deubiquitinase STAMBPL1 modulate mTOR and cancer progression. Mol. Cell 82: 770-784.e9.
8. Hui, J.B., et al. 2022. NPRL2 inhibition of mTORC1 controls sodium channel expression and brain amino acid homeostasis. eNeuro 9: ENEURO.0317-21.2022.
9. Dentel, B., et al. 2022. Increased glycine contributes to synaptic dysfunction and early mortality in NPRL2 seizure model. iScience 25: 104334.
10. Guo, C., et al. 2023. SLC38A2 and glutamine signalling in cDC1s dictate anti-tumour immunity. Nature 620: 200-208.

RESEARCH USE

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