SANTA CRUZ BIOTECHNOLOGY, INC.

fzr (DCS-266): sc-56312

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Fizzy-related protein, known as fzr, is a conserved eukaryotic gene that has been recently identified as a 7WD domain family member and is implicated in cell cycle regulation of *Drosophila* and yeast. Retroviral overexpression of fzr in B-lymphoma cells reduces tumor formation. Fzr overexpression increases B-lymphoma cell susceptibility to natural killer cell (NK) cytotoxicity. Fzr has been implicated in a new category of genes which suppress B cell tumorigenesis. Current research suggests a novel role for fzr in the target cell interaction with NK cells. Fzr also negatively regulates the levels of cyclins A, B and B3. Loss of fzr causes progression through an extra division cycle in the epidermis and inhibition of endoreduplication in the salivary gland, in addition to failure of cyclin removal. Conversely, premature fzr overexpression downregulates mitotic cyclins, inhibits mitosis and transforms mitotic cycles into endoreduplication cycles.

CHROMOSOMAL LOCATION

Genetic locus: FZR1 (human) mapping to 19p13.3; Fzr1 (mouse) mapping to 10 C1.

SOURCE

fzr (DCS-266) is a mouse monoclonal antibody raised against full length fzr 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.

fzr (DCS-266) is available conjugated to agarose (sc-56312 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-56312 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56312 PE), fluorescein (sc-56312 FITC), Alexa Fluor® 488 (sc-56312 AF488), Alexa Fluor® 546 (sc-56312 AF546), Alexa Fluor® 594 (sc-56312 AF594) or Alexa Fluor® 647 (sc-56312 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-56312 AF680) or Alexa Fluor® 790 (sc-56312 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

fzr (DCS-266) is recommended for detection of fzr 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).

Suitable for use as control antibody for fzr siRNA (h): sc-44349, fzr siRNA (m): sc-145283, fzr shRNA Plasmid (h): sc-44349-SH, fzr shRNA Plasmid (m): sc-145283-SH, fzr shRNA (h) Lentiviral Particles: sc-44349-V and fzr shRNA (m) Lentiviral Particles: sc-145283-V.

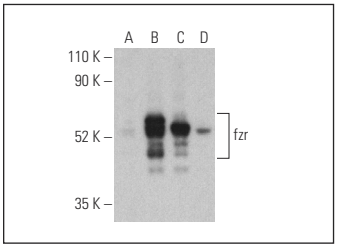
Molecular Weight of fzr: 55 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, fzr (h): 293T Lysate: sc-159658 or fzr (m): 293T Lysate: sc-120348.

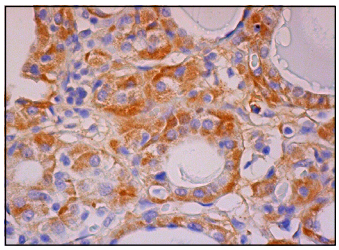
STORAGE

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

DATA



fzr (DCS-266): sc-56312. Western blot analysis of fzr expression in non-transfected 293T: sc-117752 (**A**), human fzr transfected 293T: sc-159658 (**B**), mosue fzr transfected 293T: sc-120348 (**C**) and A-431 (**D**) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



fzr (DCS-266): sc-56312. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Bhatia, P., et al. 2010. Mitotic DNA damage targets the Aurora A/TPX2 complex. Cell Cycle 9: 4592-4599.
2. Lian, G., et al. 2012. Filamin a regulates neural progenitor proliferation and cortical size through Wee1-dependent Cdk1 phosphorylation. J. Neurosci. 32: 7672-7684.
3. Wang, J., et al. 2016. Ube2s regulates Sox2 stability and mouse ES cell maintenance. Cell Death Differ. 23: 393-404.
4. Hein, J.B., et al. 2017. Distinct kinetics of serine and threonine dephosphorylation are essential for mitosis. Nat. Cell Biol. 19: 1433-1440.
5. Zhang, J., et al. 2018. Cyclin D-Cdk4 kinase destabilizes PD-L1 via cullin 3-SPOP to control cancer immune surveillance. Nature 553: 91-95.
6. Han, T., et al. 2019. Interplay between c-Src and the APC/C co-activator Cdh1 regulates mammary tumorigenesis. Nat. Commun. 10: 3716.
7. Yu, J., et al. 2020. Regulation of sister chromatid cohesion by nuclear PD-L1. Cell Res. 30: 590-601.
8. Nathans, J.F., et al. 2021. Cell cycle inertia underlies a bifurcation in cell fates after DNA damage. Sci. Adv. 7: eabe3882.
9. Wang, L., et al. 2022. CYLD deficiency enhances metabolic reprogramming and tumor progression in nasopharyngeal carcinoma via PFKFB3. Cancer Lett. 532: 215586.
10. Murphy, J.M., et al. 2022. Nuclear focal adhesion kinase induces APC/C activator protein Cdh1-mediated cyclin-dependent kinase4/6 degradation and inhibits melanoma proliferation. J. Biol. Chem. 298: 102013.

RESEARCH USE

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