SANTA CRUZ BIOTECHNOLOGY, INC.

# FRS2 (A-5): sc-17841

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

FRS2 (also designated SNT or p90) is a lipid-anchored docking protein that becomes tyrosine phosphorylated in response to FGF or NGF stimulation and subsequently binds to GRB2/Sos complexes. The GRB2 adapter protein links receptor tyrosine kinases to the Ras/MAPK signaling pathway but does not interact directly with FGF receptors. FRS2 thus provides a link between activation of FGF and NGF receptors and the Ras/MAPK pathway. FRS2 contains four GRB2 binding sites, a myristylation sequence and a PTP domain. Myristylation of FRS2 is essential for membrane localization, tyrosine phosphorylation, GRB2/Sos recruitment and MAPK activation. The function of FRS2 in FGF receptor signaling is analogous to that of IRS-1 in response to Insulin receptor stimulation.

## CHROMOSOMAL LOCATION

Genetic locus: FRS2 (human) mapping to 12q15; Frs2 (mouse) mapping to 10 D2.

## SOURCE

FRS2 (A-5) is a mouse monoclonal antibody raised against amino acids 258-348 of SNT-1 (also designated FRS2 in mouse) of human origin.

## PRODUCT

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

FRS2 (A-5) is available conjugated to agarose (sc-17841 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17841 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17841 PE), fluorescein (sc-17841 FITC), Alexa Fluor® 488 (sc-17841 AF488), Alexa Fluor® 546 (sc-17841 AF546), Alexa Fluor® 594 (sc-17841 AF594) or Alexa Fluor® 647 (sc-17841 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17841 AF680) or Alexa Fluor® 790 (sc-17841 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.



## APPLICATIONS

FRS2 (A-5) is recommended for detection of FRS2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), 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 FRS2 siRNA (h): sc-35413, FRS2 siRNA (m): sc-35414, FRS2 shRNA Plasmid (h): sc-35413-SH, FRS2 shRNA Plasmid (m): sc-35414-SH, FRS2 shRNA (h) Lentiviral Particles: sc-35413-V and FRS2 shRNA (m) Lentiviral Particles: sc-35414-V.

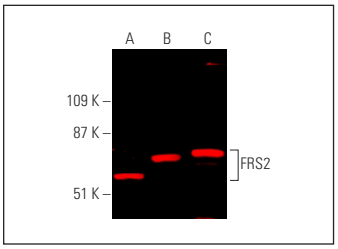
Molecular Weight of phosphorylated FRS2: 60-90 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, NIH/3T3 whole cell lysate: sc-2210 or rat liver extract: sc-2395.

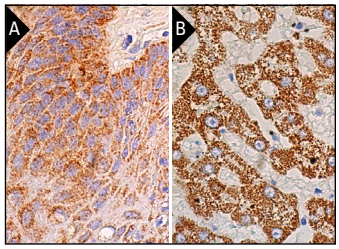
## STORAGE

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

## DATA




FRS2 (A-5): sc-17841. Near-infrared western blot analysis of FRS2 expression in rat liver tissue extract (**A**) and NIH/3T3 (**B**) and MCF7 (**C**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.




FRS2 (A-5): sc-17841. Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing cytoplasmic staining of squamous epithelial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes (**B**).

## SELECT PRODUCT CITATIONS

1. Dutt, A., et al. 2008. Drug-sensitive FGFR2 mutations in endometrial carcinoma. Proc. Natl. Acad. Sci. USA 105: 8713-8717.
2. Dutt, A., et al. 2011. Inhibitor-sensitive FGFR1 amplification in human non-small cell lung cancer. PLoS ONE 6: e20351.
3. Czaplinska, D., et al. 2014. Phosphorylation of RSK2 at Tyr529 by FGFR2-p38 enhances human mammary epithelial cells migration. Biochim. Biophys. Acta 1843: 2461-2470.
4. Gao, Q., et al. 2017. The signalling receptor MCAM coordinates apical-basal polarity and planar cell polarity during morphogenesis. Nat. Commun. 8: 15279.
5. Byun, S., et al. 2018. Postprandial FGF19-induced phosphorylation by Src is critical for FXR function in bile acid homeostasis. Nat. Commun. 9: 2590.
6. Takamura, T., et al. 2018. FGFR inhibitor BGJ398 and HDAC inhibitor OBP-801 synergistically inhibit cell growth and induce apoptosis in bladder cancer cells. Oncol. Rep. 39: 627-632.
7. Chew, N.J., et al. 2020. FGFR3 signaling and function in triple negative breast cancer. Cell Commun. Signal. 18: 13.
8. Wang, Y., et al. 2020. GZD824 as a FLT3, FGFR1 and PDGFRα inhibitor against leukemia *in vitro* and *in vivo*. Transl. Oncol. 13: 100766.
9. Le, T.B.U., et al. 2020. Bevacizumab augments the antitumor efficacy of infigratinib in hepatocellular carcinoma. Int. J. Mol. Sci. 21: 9405.
10. Prawira, A., et al. 2021. Ribociclib enhances infigratinib-induced cancer cell differentiation and delays resistance in FGFR-driven hepatocellular carcinoma. Liver Int. 41: 608-620.

## RESEARCH USE

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