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ProductInformation

ANTI-FRS2 (SNT-1)
Developed in Rabbit
Affinity Isolated Antibody

Product Number **F 9052**

Product Description

Anti-FRS2 (SNT-1) is developed in rabbit using a synthetic peptide corresponding to amino acid residues 487-505 of human FRS2α conjugated to KLH. The corresponding sequence is identical in *Xenopus* and differs from the respective human and mouse FRS2β sequences by 2 and 3 amino acids, respectively. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-FRS2 (SNT-1) specifically recognizes human FRS2 by immunoblotting and immunoprecipitation as 1-2 bands (92-95 kDa). Staining of the FRS2 band/s is specifically inhibited by the immunizing peptide. The antibody also reacts rat and mouse FRS2.

FGFs (Fibroblast Growth Factors) bind to FGF receptors (FGFRs) monovalently, and FGF receptor dimerization and activation is mediated by multivalent interactions between heparin sulfate proteoglycans and FGF.[1] Upon activation, receptor tyrosine kinases undergo rapid autophosphorylation on numerous tyrosine residues. Autophosphorylation sites located within the catalytic domain are crucial for stimulation of kinase activity, while autophosphorylation sites located in other regions are usually involved in the recruitment of cellular target proteins.[2]

Fibroblast growth factor or nerve growth factor (NGF) stimulation leads to tyrosine phosphorylation of the FGF Receptor Substrate 2 (FRS2) docking proteins. FRS2 is also designated SNT (Suc-1 associated neurotrophic factor target protein). Two structurally similar forms of FRS2 are: FRS2α (SNT-1) and FRS-2β (SNT-2, FRS3). FRS functions as a lipid-anchored docking protein that is tyrosine phosphorylated and recruited to FGFR upon FGF stimulation. FRS2 plays an important role in linking FGF and NGF with the Ras/MAPK signaling pathway, thus relaying information from the cell surface to the nucleus.[3]

FRS2 contains both a consensus myristylation sequence, involved in its recruitment to the cell membrane[4] and a putative phosphotyrosine binding (PTB) domain in its amino-terminus. The interaction of FRS2 with FGFR1 occurs via the PTB domain of FRS2 binding to a 12-residue segment in the juxtamembrane region of FGFR1.[5] FRS2α contains four binding sites for the adaptor protein Grb2 and two binding sites for the protein tyrosine phosphatase Shp2. FGF stimulation leads to phosphorylation of Shp2 on a tyrosine residue forming a complex with an additional molecule of Grb2. Grb2/Sos complexes are thus recruited directly and indirectly via Shp2 upon tyrosine phosphorylation of FRS2α in response to growth factor stimulation.[6] It has been shown that FRS2 proteins are tyrosine phosphorylated in response to activation of the RET receptor, a tyrosine kinase that functions as the signal transducing receptor for the GDNF.[7]

Reagent

Anti-FRS2 (SNT-1) is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% bovine serum albumin and 15 mM sodium azide.

Antibody concentration: 1.0-2.0 mg/ml

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

For immunoblotting, a minimum working antibody dilution of 1:1,000 is recommended using whole cell extracts of rat PC-12 and human HepG2 cells, and chemiluminescent immmunoblotting detection reagent.

For immunoprecipitation, a minimum working antibody concentration of 10-20 µg is recommended using a 3 mg RIPA lysate of mouse NIH/3T3 cells.

Note: In order to obtain the best results using different techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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