3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Anti-Sprouty 2 (N-Terminal)
Developed in Rabbit, Affinity Isolated Antibody

Product Number **S 1444**

Product Description

Anti-Sprouty-2 (N-Terminal) is developed in rabbit using a synthetic peptide corresponding to amino acids 79-98 of mouse Sprouty 2 (Spry 2), conjugated to KLH via a C-terminal added lysine residue as immunogen. This sequence differs in one amino acid from the human sequence. The antibody is affinity-purified using the immunizing peptide immobilized on agarose

Anti Sprouty 2 (N-Terminal) recognizes Sprouty 2 by immunoblotting (doublet at approx 32-35 kDa), immunofluorescence and immunoprecipitation.

Sprouty 2 was first isolated in *Drosophila* as a negative regulator of receptor tyrosine kinase signaling (RTK).[1] In vertebrates, the family is composed of four members, Sprouty 1, 2, 3 and 4 [1-3] Mammalian Sprouty proteins share a well-conserved carboxy terminal cysteine-rich domain, which is required for inducible translocation of Sprouty proteins to the plasma membrane, and a less conserved N-terminus.[4] Human Spry2 encodes 315 amino acids protein, postranslationally modified by palmytoilation, and by phosphorylation of serine and tyrosine residues.[4,6] When expressed in COS cells, Spry2 is localized to the cytoplasm and co-localized with microtubule proteins. Upon EGF stimulation, it is translocated to membrane ruffles.[5] Sprouty 1 and 2 inhibit FGF- and VEGF-induced endothelial cell proliferation, at least in part, by repressing pathways leading to p42/44 MAP kinase activation.[4] The role of Sprouty 2 in EGF-mediated MAP kinase signaling is less clear. It was recently shown that Spry can function both as a negative and positive regulator of EGFR-mediated MAP kinase signaling.[6-9] Interaction of Spry2 with Cbl (an E3-ubiquitin ligase) interferes with the ability of hSpry2 to inhibit EGF signaling by specifically intercepting c-Cbl mediated effects on receptor down regulation. Phosphorylation of Spry 2 on Tyr^{55} leads to its association with c-Cbl. This association prevents formation of an EGF receptor-Cbl complex, consequently inhibiting ubiquitination and down regulation of the latter.[7-9] Antibodies reacting specifically with Sprouty 2 may be useful for studying the regulation of receptor tyrosine kinases signaling.

Reagent

Anti-Sprouty-2 (N-Terminal) is provided as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% BSA and 15 mM sodium azide as a preservative.

Antibody concentration: approx. 1.0 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 hazardous and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. 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

A recommended working concentration of 0.5-1.0 µg/ml is determined by immunoblotting, using extracts of MDCK (Madin Darby canine kidney) cells.

A working concentration of 2.0-4.0 µg/ml is determined by indirect immunofluorescence staining of 293-T cells transfected with human Sprouty 2.

5-10 µg of the antibody immunoprecipitates human Sprouty 2 from cell extracts of 293-T transfected with human Sprouty 2.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

1. Hacohen, N.S., et al., Cell, **92**, 253-263 (1998).
2. de Maximy, A.A, et al., Mech. Dev., **81**, 213-216 (1999).
3. Minowada, G., et al., Development, **126**, 4465-4475 (1999).
4. Impagnatiello, M.A., et al., J. Cell Biol., **152**, 1087-1098 (2001).
5. Lim, J., et al., J. Biol. Chem., **275**, 32837-32845 (2000).
6. Rubin, C., et al., Curr. Biol., **13**, 297-307 (2003).
7. Egan, J.E., et al., Proc. Natl. Acad. Sci. USA, **99**, 6041-6046 (2002).
8. Wong, E.S.M., et al., EMBO J., **21**, 4796-4808 (2002).
9. Hall, A.B., et al., Curr. Biol., **18**, 308-314 (2003).

KA/NV 09/04