



Qty: 100 µg/400 µL

Rabbit anti-Sprouty 4 (C-term)

Catalog No. 40-9300

Lot No.

Rabbit anti-Sprouty 4 (C-term)

FORM

This polyclonal antibody is supplied as a 400 µL aliquot at a concentration of 0.25 mg/mL in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. This antibody is epitope-affinity purified from rabbit antiserum.

PAD: ZMD.514

IMMUNOGEN

Synthetic peptide derived from the C-terminal region of the human, mouse and rat Sprouty 4 proteins

SPECIFICITY

This antibody is specific for Sprouty 4 (Spry4) protein, which recognizes both the long and short isoforms of the human protein. On Western blots, it identifies the target band at ~32 kDa.

REACTIVITY

Reactivity has been confirmed with mouse and rat lung homogenates and with mouse liver homogenates. Reactivity has also been confirmed using HepG2, JEG-3 and Mv1Lu cell lysates and with paraffin-embedded human normal breast tissue. Based on amino acid sequence homology, reactivity with bovine, chimpanzee and dog is also expected.

Sample	Western Blotting	Immuno-histochemistry (paraffin)*	Immuno-precipitation
Human	+++	+++	ND
Mouse	+++	ND	0**
Rat	+++	ND	ND
Bovine	ND	ND	ND
Chimpanzee	ND	ND	ND
Dog	ND	ND	ND

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

**No reactivity observed under experimental conditions tested.

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

Western Blotting: 1–3 µg/mL

Immunohistochemistry (paraffin)*: 5-10 µg/mL

*For immunohistochemistry in paraffin-embedded tissues, heat induced epitope retrieval (HIER) with EDTA, pH 8.0, is required prior to staining.

STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

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PI409300

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BACKGROUND

Sprouty was first identified as an antagonist of fibroblast growth factor (FGF) signaling in apical branching of *Drosophila* airways^{1,2}. Sprouty proteins comprise a new family of putative signaling mediators, and to date, three mouse (mSpry 1, 2, 4) and four human (hSpry 1, 2, 3, 4) Sprouty isoforms have been described. Sprouty proteins are regulated by tyrosine phosphorylation³, and function as general inhibitors of receptor tyrosine kinase (RTK) signaling pathways. Sprouty has been shown to regulate a wide variety of RTK-mediated pathways, including EGFr, Torso, Sevenless, Heartless, ERK1/2 and Ras/Raf/MAP. Sprouty proteins function as antagonists for many physiological and developmental processes, including angiogenesis, lung morphogenesis, and eye, wing and bone development⁴⁻⁷. Sprouty proteins feature a highly conserved C-terminal cysteine-rich domain that is likely to confer RTK inhibitory activity. A translocation domain and a Raf binding motif have been identified within the C-terminal domain, which are important for cellular migration and proliferation⁸⁻¹⁰. The N-terminal domain is variable, and may be responsible for functional divergence among Sprouty protein family members.

The *Sprouty4* (*Spry4*) gene is highly conserved in vertebrate evolution, and mouse and human *Spry4* sequences show 88% homology at the protein level¹¹. Sprouty 4 is induced by both FGF and ERK signaling, suggesting that it may serve as a feedback inhibitor these signaling processes¹²⁻¹⁴. Ectopic expression and overexpression studies in the mouse embryo indicate that Sprouty 4 is a critical regulator of branching morphogenesis, including angiogenesis and respiratory organogenesis^{15,16}.

REFERENCES

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RELATED PRODUCTS

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