SANTA CRUZ BIOTECHNOLOGY, INC.

gremlin (P-19): sc-18275

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The gremlin protein family contains antagonists of bone morphogenetic protein (BMP) signaling that are expressed in the neural crest. All family members are secreted proteins that act as BMP antagonists in embryonic explants and are expressed in the proximal airway epithelium of the lung during embryonic development. Gremlin-1 is required for early limb outgrowth and patterning in the FGF4-SHH feedback loop, while gremlin-2 binds and blocks the activity of BMP-2 and BMP-4. The dorsaling factor gremlin belongs to a novel gene family that includes the head-inducing factor Cerberus and the tumor suppressor DAN. Additionally, secreted gremlin relays the sonic hedgehog signal from the polarizing region to the apical ectodermal ridge.

REFERENCES

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6. Lu, M.M., Yang, H., Zhang, L., Shu, W., Blair, D.G. and Morrisey, E.E. 2001. The bone morphogenic protein antagonist gremlin regulates proximal-distal patterning of the lung. Dev. Dyn. 222: 667-680.

CHROMOSOMAL LOCATION

Genetic locus: GREM1 (human) mapping to 15q13.3, GREM2 (human) mapping to 1q43; Grem1 (mouse) mapping to 2 E4, Grem2 (mouse) mapping to 1 H3.

SOURCE

gremlin (P-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of gremlin-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-18275 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

gremlin (P-19) is recommended for detection of gremlin-1 and, to a lesser extent, gremlin-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

gremlin (P-19) is also recommended for detection of gremlin-1 and, to a lesser extent, gremlin-2 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of gremlin 1: 23 kDa.

Molecular Weight of gremlin 2: 19 kDa.

Positive Controls: mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.