

patched 2 (M-20): sc-8220

BACKGROUND

Overexpression of either Wnt-1 or the GLI proteins have been shown to result in cancer. These proteins exist in a signal cascade downstream of the mammalian homologs of the *Drosophila* hedgehog (hh) and patched (ptc) proteins. The hedgehog protein mediates embryonic and imaginal disc patterning, and patched expression is precisely regulated during embryonic development. Hedgehog enhances the expression of the Wnt family of proteins through a signaling cascade involving the GLI transcription factors, while patched functions as a repressor opposing the effects of hedgehog. Mutations in the ptc gene, which result in unregulated hedgehog signaling, correlates with the most common type of cancer, basal cell carcinoma, which affects 750,000 individuals annually in the United States. An additional patched family member, patched 2, has been found to be coexpressed with Sonic hedgehog.

REFERENCES

1. Nusslein-Volhard, C., et al. 1980. Mutations affecting segment number and polarity in *Drosophila*. *Nature* 287: 795-801.
2. Kinzler, K.W., et al. 1987. Identification of an amplified, highly expressed gene in a human glioma. *Science* 236: 70-73.
3. Parkin, N.T., et al. 1993. Activity of Wnt-1 as a transmembrane protein. *Genes Dev.* 7: 2181-2193.
4. Marti, E., et al. 1995. Requirement of 19K form of Sonic hedgehog for induction of distinct ventral cell types in CNS explants. *Nature* 375: 322-325.
5. Johnson, R.L., et al. 1995. The long and short of hedgehog signaling. *Cell* 81: 313-316.
6. Roelink, H., et al. 1995. Floor plate and motor neuron induction by different concentrations of the amino-terminal cleavage product of Sonic hedgehog autoproteolysis. *Cell* 81: 445-455.
7. Pennisi, E. 1996. Gene linked to commonest cancer. *Science* 272: 1583-1584.
8. Johnson, R.L., et al. 1996. Human homolog of patched, a candidate gene for the basal cell nevus syndrome. *Science* 272: 1668-1671.

CHROMOSOMAL LOCATION

Genetic locus: PTCH2 (human) mapping to 1p34.1; Ptch2 (mouse) mapping to 4 D1.

SOURCE

patched 2 (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of patched 2 of mouse 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-8220 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

patched 2 (M-20) is recommended for detection of patched 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

patched 2 (M-20) is also recommended for detection of patched 2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for patched 2 siRNA (h): sc-40159, patched 2 siRNA (m): sc-40160, patched 2 shRNA Plasmid (h): sc-40159-SH, patched 2 shRNA Plasmid (m): sc-40160-SH, patched 2 shRNA (h) Lentiviral Particles: sc-40159-V and patched 2 shRNA (m) Lentiviral Particles: sc-40160-V.

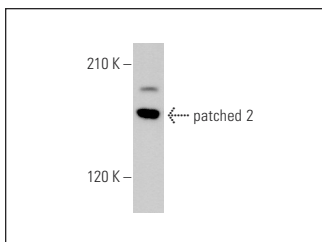
Molecular Weight of patched 2: 140 kDa.

Positive Controls: AT3B-1 whole cell lysate: sc-364372.

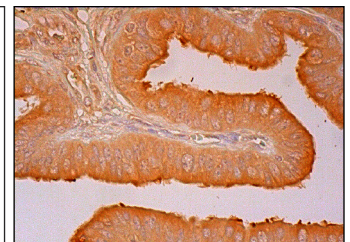
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



patched 2 (M-20): sc-8220. Western blot analysis of patched 2 expression in AT3B-1 whole cell lysate.



patched 2 (M-20): sc-8220. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic staining of glandular cells.

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.