SANTA CRUZ BIOTECHNOLOGY, INC.

patched (H-10): sc-518102

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. 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.

CHROMOSOMAL LOCATION

Genetic locus: PTCH1 (human) mapping to 9q22.32; Ptch1 (mouse) mapping to 13 B3.

SOURCE

patched (H-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 270-296 within an extracellular domain of patched of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

patched (H-10) is available conjugated to agarose (sc-518102 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-518102 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518102 PE), fluorescein (sc-518102 FITC), Alexa Fluor® 488 (sc-518102 AF488), Alexa Fluor® 546 (sc-518102 AF546), Alexa Fluor® 594 (sc-518102 AF594) or Alexa Fluor® 647 (sc-518102 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518102 AF680) or Alexa Fluor® 790 (sc-518102 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

patched (H-10) is recommended for detection of patched of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for patched siRNA (h): sc-36192, patched siRNA (m): sc-36191, patched shRNA Plasmid (h): sc-36192-SH, patched shRNA Plasmid (m): sc-36191-SH, patched shRNA (h) Lentiviral Particles: sc-36192-V and patched shRNA (m) Lentiviral Particles: sc-36191-V.

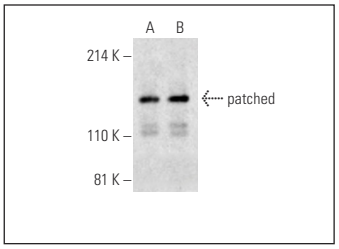
Molecular Weight of patched: 140 kDa.

Positive Controls: GA-10 whole cell lysate: sc-364230 or Y79 cell lysate: sc-2240.

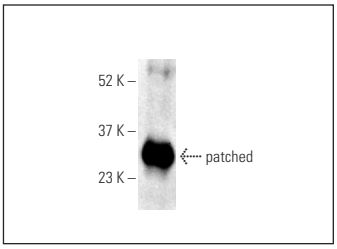
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



patched (H-10): sc-518102. Western blot analysis of patched expression in GA-10 (**A**) and Y79 (**B**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM.



patched (H-10): sc-518102. Western blot analysis of mouse recombinant patched. Detection reagent used: m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM.

SELECT PRODUCT CITATIONS

1. Wei, G., et al. 2020. Erk and MAPK signaling is essential for intestinal development through Wnt pathway modulation. Development 147: dev185678.
2. Liu, J., et al. 2022. IL25 enhanced colitis-associated tumorigenesis in mice by upregulating transcription factor GLI1. Front. Immunol. 13: 837262.

STORAGE

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