SANTA CRUZ BIOTECHNOLOGY, INC.

patched (E-7): sc-518046

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. Johnson, R.L., et al. 1995. The long and short of hedgehog signaling. Cell 81: 313-316.
5. 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.
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.
9. Motoyama, J., et al. 1998. Ptch2, a second mouse Patched gene is coexpressed with Sonic hedgehog. Nat. Genet. 18: 104-106.

CHROMOSOMAL LOCATION

Genetic locus: PTCH1 (human) mapping to 9q22.32.

SOURCE

patched (E-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1402-1429 within a C-terminal cytoplasmic domain of patched of human origin.

PRODUCT

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

RESEARCH USE

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

APPLICATIONS

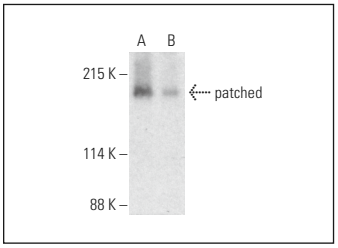
patched (E-7) is recommended for detection of patched of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) 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 shRNA Plasmid (h): sc-36192-SH and patched shRNA (h) Lentiviral Particles: sc-36192-V.

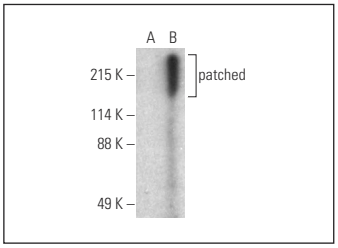
Molecular Weight of patched: 140 kDa.

Positive Controls: Y79 cell lysate: sc-2240, Ramos cell lysate: sc-2216 or human patched transfected HEK293T whole cell lysate.

DATA



patched (E-7): sc-518046. Western blot analysis of patched expression in Y79 (**A**) and Ramos (**B**) whole cell lysates.



patched (E-7): sc-518046. Western blot analysis of patched expression in non-transfected (**A**) and human patched transfected (**B**) HEK293T whole cell lysates.

STORAGE

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

PROTOCOLS

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