

Anti-PTCH2 Antibody

Catalog # ABO11167

Product Information

Application	WB
Primary Accession	Q9Y6C5
Host	Rabbit
Reactivity	Human, Mouse
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Protein patched homolog 2(PTCH2) detection. Tested with WB in Human;Mouse.

Reconstitution Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	8643
Other Names	Protein patched homolog 2, PTC2, PTCH2
Calculated MW	130544
Application Details	Western blot, 0.1-0.5 µg/ml, Human, Mouse
Subcellular Localization	Membrane; Multi-pass membrane protein.
Source	Eukaryota
Protein Name	Protein patched homolog 2(PTC2)
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg Thimerosal, 0.05mg NaN ₃ .
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human PTCH2(885-901aa WLHDKYDTTGENLRIPP), different from the related mouse sequence by one amino acid.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20 °C for one year. After reconstitution, at 4 °C for one month. It can also be aliquotted and stored frozen at -20 °C for a longer time. Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the patched family.

Protein Information

Name	PTCH2 {ECO:0000303 PubMed:9811851, ECO:0000312 HGNC:HGNC:9586}
Function	Negative regulator of the smoothened signaling pathway, which acts as a receptor for hedgehog (SHH, IHH and DHH) morphogens (PubMed: 9811851). In absence of hedgehog, acts as an inhibitor of smoothened protein (SMO) by preventing SMO access to cholesterol: mechanistically, acts as a cholesterol transporter, which depletes cholesterol from the outer leaflet of plasma membrane, thereby preventing cholesterol-binding to the extracellular CRD region of SMO. Hedgehog-binding inhibits PTCH1 cholesterol transporter activity, promoting SMO activation by cholesterol and transduction of the smoothened signaling pathway. Molecular mechanism governing cholesterol transport are still unclear: may move cholesterol from the outer to the inner leaflet of the membrane in exchange for potassium or sodium ion export in the opposite direction (By similarity). In contrast to PTCH1 ortholog, PTCH2 is not essential for viability and plays a more limited role. Plays a role in epidermal homeostasis in mature skin (By similarity). Plays a role in the control of cellular growth (PubMed: 18285427).
Cellular Location	Cell membrane {ECO:0000250 UniProtKB:Q61115}; Multi-pass membrane protein {ECO:0000250 UniProtKB:Q61115}. Cell projection, cilium membrane {ECO:0000250 UniProtKB:Q61115}; Multi-pass membrane protein {ECO:0000250 UniProtKB:Q61115}. Note=Localizes to primary cilium and prevents cilium localization of SMO. Delocalizes from primary cilium following hedgehog-binding {ECO:0000250 UniProtKB:Q61115}

Background

PTCH2(patchd 2), also known as PTC2, encodes a 1.203-amino acid putative transmembrane protein that is highly homologous to the PTCH product. The Patched-hedgehog signaling pathway is involved in establishing segment polarity and the anterior-posterior orientation of a number of developing appendages. The pathway is conserved from fly to vertebrates and has been implicated in a number of human neoplasms and developmental syndromes. Mutations in the human Patched gene are the basis of the nevoid basal cell carcinoma syndrome. With age, homozygous mutant male mice developed skin lesions consisting of alopecia and epidermal hyperplasia, suggesting a role for $\square$ Ptch2 $\square$ in adult epidermal homeostasis via Shh signaling.

Images



Anti-PTCH2 antibody, ABO11167, Western blottingWB:
HELA Cell Lysate