10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

SMO Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP16325c

Product Information

Application	WB, E
Primary Accession	Q99835
Other Accession	NP_005622.1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB35752
Calculated MW	86397
Antigen Region	539-567

Additional Information

Gene ID	6608
Other Names	Smoothened homolog, SMO, Protein Gx, SMO, SMOH
Target/Specificity	This SMO antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 539-567 amino acids from the Central region of human SMO.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	SMO Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SMO
Synonyms	SMOH
Function	G protein-coupled receptor which associates with the patched protein (PTCH) to transduce hedgehog protein signaling. Binding of sonic hedgehog

	(SHH) to its receptor patched prevents inhibition of smoothened (SMO) by patched. When active, SMO binds to and sequesters protein kinase A catalytic subunit PRKACA at the cell membrane, preventing PRKACA-mediated phosphorylation of GLI transcription factors which releases the GLI proteins from PRKACA-mediated inhibition and allows for transcriptional activation of hedgehog pathway target genes (By similarity). Required for the accumulation of KIF7, GLI2 and GLI3 in the cilia (PubMed:19592253). Interacts with DLG5 at the ciliary base to induce the accumulation of KIF7 and GLI2 at the ciliary tip for GLI2 activation (By similarity).
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:P56726}; Multi-pass membrane protein. Cell projection, cilium. Note=Cilium localization is promoted by SHH and is required for activity. {ECO:0000250|UniProtKB:P56726}

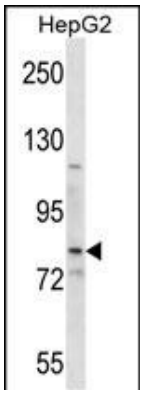
Background

The protein encoded by this gene is a G protein-coupled receptor that interacts with the patched protein, a receptor for hedgehog proteins. The encoded protein tranduces signals to other proteins after activation by a hedgehog protein/patched protein complex.

References

Zhang, L., et al. Oral Dis 16(8):818-822(2010)
Desch, P., et al. Oncogene 29(35):4885-4895(2010)
Walter, K., et al. Clin. Cancer Res. 16(6):1781-1789(2010)
Hirotsu, M., et al. Mol. Cancer 9, 5 (2010) :
Rittie, L., et al. Aging Cell 8(6):738-751(2009)

Images



SMO Antibody (Center) (Cat. #AP16325c) western blot analysis in HepG2 cell line lysates (35ug/lane).This demonstrates the SMO antibody detected the SMO protein (arrow).

Citations

- The sonic hedgehog pathway mediates Tongxinluo capsule-induced protection against blood-brain barrier disruption after ischemic stroke in mice.
- Dehydroeffusol inhibits viability and epithelial-mesenchymal transition through the Hedgehog and Akt/mTOR signaling pathways in neuroblastoma cells.
- Salinomycin exerts anticancer effects on human breast carcinoma MCF-7 cancer stem cells via modulation of Hedgehog signaling.