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

Anti-SMO / Smoothened Antibody (N-Terminus)

Rabbit Anti Human Polyclonal Antibody
Catalog # ALS17416

Product Information

Application	WB, IHC-P
Primary Accession	Q99835
Predicted	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	86397
Concentration (mg/ml)	1 mg/ml

Additional Information

Gene ID	6608
Alias Symbol	SMO
Other Names	SMO, Frizzled family member 11, FZD11, Gx, Protein Gx, SMOH, Smoothened, Smoothened homolog
Target/Specificity	Recognizes endogenous levels of Smoothened protein.
Reconstitution & Storage	PBS, pH 7.3, 0.01% sodium azide, 30% glycerol. Store at -20°C. Aliquot to avoid freeze/thaw cycles.
Precautions	Anti-SMO / Smoothened Antibody (N-Terminus) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SMO {ECO:0000303|PubMed:8906787, ECO:0000312|HGNC:HGNC:11119}
Function	G protein-coupled receptor, which transduces the smoothened signaling pathway (PubMed:19592253, PubMed:27437577, PubMed:28344083, PubMed:31168089, PubMed:32929279, PubMed:36202993). Activated by cholesterol in response to hedgehog (DHH, IHH or SHH) morphogens (PubMed:27437577, PubMed:28344083, PubMed:32929279). In absence of hedgehog, SMO is inactivated by patched protein (PTCH1 or PTCH2), which prevents SMO access to cholesterol (PubMed:28344083). In response to hedgehog-binding to pathched, inhibition is relieved, promoting SMO translocation to primary cilium and activation by cholesterol: cholesterol causes a conformation change that triggers signaling via G protein G(i), mediating inhibition of adenylate cyclase activity and decreassed production of cAMP (PubMed:28344083, PubMed:31168089). Decreased cAMP levels then inhibit protein kinase A (PKA) and promote release of GLI (GLI1, GLI2 and

GLI3) transcription factors, which activate expression of target genes (PubMed:31168089). Active SMO also directly inhibits PKA by sequestering its catalytic subunit, PRKACA, at the cell membrane, preventing PRKACA-mediated phosphorylation and subsequent processing of GLI transcription factors (PubMed:36202993, PubMed:39138140). Active SMO also promotes the removal of GPR161, a key inhibitor of the smoothened signaling pathway, from primary cilia (By similarity).

Cellular Location

Cell membrane {ECO:0000250|UniProtKB:P56726}; Multi-pass membrane protein. Cell projection, cilium membrane; Multi-pass membrane protein. Note=Translocates to primary cilium in response to hedgehog (DHH, IHH or SHH) morphogens (By similarity) Cilium localization is mediated via a beta-arrestin and KIF3A-dependent mechanism (By similarity). {ECO:0000250|UniProtKB:P56726}

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.