

**SMO / Smoothened Antibody (clone 3D10)**  
**Mouse Monoclonal Antibody**  
**Catalog # ALS14524**

**Specification**

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**SMO / Smoothened Antibody (clone 3D10) - Product Information**

Application	IHC
Primary Accession	<a href="#">O99835</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	86kDa KDa

**SMO / Smoothened Antibody (clone 3D10) - Additional Information**

**Gene ID** 6608

**Other Names**

Smoothened homolog, SMO, Protein Gx, SMO, SMOH

**Target/Specificity**

Human SMO / Smoothened

**Reconstitution & Storage**

Store at -20°C or lower. Aliquot to avoid repeated freezing and thawing.

**Precautions**

SMO / Smoothened Antibody (clone 3D10) is for research use only and not for use in diagnostic or therapeutic procedures.

**SMO / Smoothened Antibody (clone 3D10) - 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:<a href="http://www.uniprot.org/citations/19592253" target="\_blank">19592253</a>). 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

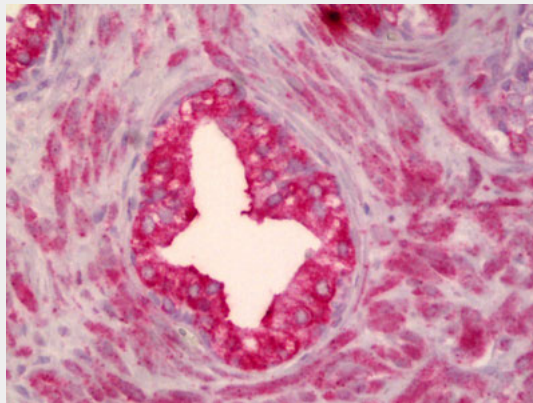
Cell membrane {ECO:0000250|UniProtKB:P56726}; Multi-pass membrane protein. Cell projection, cilium. Note=Cilium localization is promoted by SHH and is required for activity. {ECO:0000250|UniProtKB:P56726}

### SMO / Smoothened Antibody (clone 3D10) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### SMO / Smoothened Antibody (clone 3D10) - Images



Anti-SMO antibody IHC of human prostate.

### SMO / Smoothened Antibody (clone 3D10) - Background

G protein-coupled receptor that probably associates with the patched protein (PTCH) to transduce the hedgehog's proteins signal. Binding of sonic hedgehog (SHH) to its receptor patched is thought to prevent normal inhibition by patched of smoothened (SMO). Required for the accumulation of KIF7 and GLI3 in the cilia.

### SMO / Smoothened Antibody (clone 3D10) - References

- Stone D.M.,et al.Nature 384:129-134(1996).  
Xie J.,et al.Nature 391:90-92(1998).  
Jiang N.,et al.Submitted (JAN-1999) to the EMBL/GenBank/DDBJ databases.  
Scherer S.W.,et al.Science 300:767-772(2003).  
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.