

**SMURF2 Antibody**  
Catalog # ASC11791**Specification****SMURF2 Antibody - Product Information**

Application	WB, IHC, IF
Primary Accession	<a href="#">O9HAU4</a>
Other Accession	<a href="#">NP_073576</a> , <a href="#">12232397</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	Predicted: 82 kDa

Application Notes	<b>Observed: 85 kDa KDa</b> SMURF2 antibody can be used for detection of SMURF2 by Western blot at 1 - 2 µg/ml. Antibody can also be used for Immunohistochemistry at 5 µg/mL. For Immunofluorescence start at 20 µg/mL.
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**SMURF2 Antibody - Additional Information**Gene ID **64750****Target/Specificity**

SMURF2; SMURF2 antibody is human, mouse and rat reactive. SMURF2 is predicted to not cross-react with SMURF1.

**Reconstitution & Storage**

SMURF2 antibody can be stored at 4°C for three months and -20°C, stable for up to one year.

**Precautions**

SMURF2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**SMURF2 Antibody - Protein Information**Name SMURF2 ([HGNC:16809](#))**Function**

E3 ubiquitin-protein ligase which accepts ubiquitin from an E2 ubiquitin-conjugating enzyme in the form of a thioester and then directly transfers the ubiquitin to targeted substrates (PubMed:[11016919](http://www.uniprot.org/citations/11016919)). Interacts with SMAD7 to trigger SMAD7-mediated transforming growth factor beta/TGF-beta receptor ubiquitin-dependent degradation, thereby down-regulating TGF-beta signaling (PubMed:[11163210](http://www.uniprot.org/citations/11163210), PubMed:[12717440](http://www.uniprot.org/citations/12717440), PubMed:[21791611](http://www.uniprot.org/citations/21791611)). In addition, interaction with SMAD7 activates autocatalytic degradation, which is prevented by interaction with

AIMP1 (PubMed:<a href="http://www.uniprot.org/citations/18448069" target="\_blank">18448069</a>). Also forms a stable complex with TGF-beta receptor-mediated phosphorylated SMAD1, SMAD2 and SMAD3, and targets SMAD1 and SMAD2 for ubiquitination and proteasome-mediated degradation (PubMed:<a href="http://www.uniprot.org/citations/11016919" target="\_blank">11016919</a>, PubMed:<a href="http://www.uniprot.org/citations/11158580" target="\_blank">11158580</a>, PubMed:<a href="http://www.uniprot.org/citations/11389444" target="\_blank">11389444</a>). SMAD2 may recruit substrates, such as SNON, for ubiquitin-dependent degradation (PubMed:<a href="http://www.uniprot.org/citations/11389444" target="\_blank">11389444</a>). Negatively regulates TGFB1-induced epithelial-mesenchymal transition and myofibroblast differentiation (PubMed:<a href="http://www.uniprot.org/citations/30696809" target="\_blank">30696809</a>).

#### Cellular Location

Nucleus. Cytoplasm. Cell membrane. Membrane raft. Note=Cytoplasmic in the presence of SMAD7. Colocalizes with CAV1, SMAD7 and TGF-beta receptor in membrane rafts

#### Tissue Location

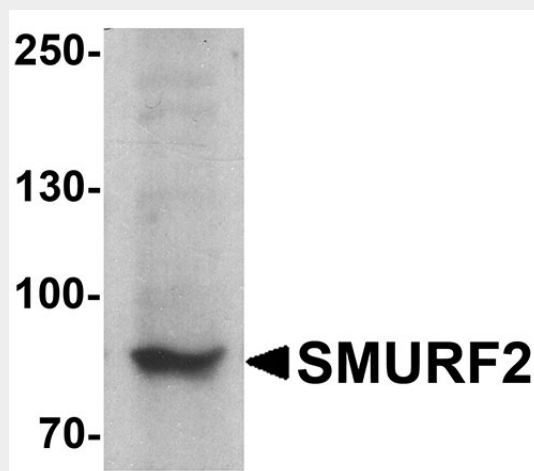
Widely expressed.

#### SMURF2 Antibody - Protocols

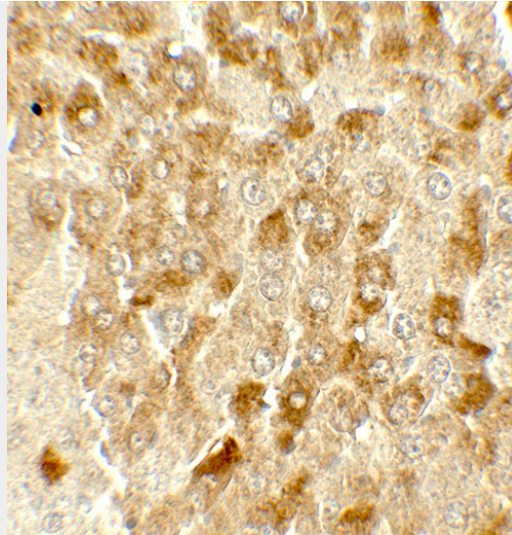
Provided below are standard protocols that you may find useful for product applications.

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

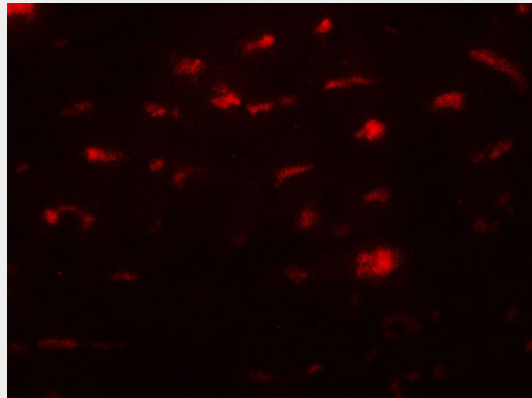
#### SMURF2 Antibody - Images



Western blot analysis of SMURF2 in C2C12 cell lysate with SMURF2 antibody at 1 µg/ml.



Immunohistochemistry of SMURF2 in mouse liver tissue with SMURF2 antibody at 5 µg/mL.



Immunofluorescence of SMURF2 in mouse liver tissue with SMURF2 antibody at 20 µg/mL.

### **SMURF2 Antibody - Background**

SMURF2 (SMAD ubiquitin regulatory factor 2) is a negative regulator of TGF-beta signaling (1). SMURF1 and SMURF2 are members of HECT domain E3 ubiquitin ligase which are involved in the enzymatic reactions of the Ub conjugating pathway (1,2). SMURF2 is widely expressed and was initially identified as an inhibitor of TGF-beta/BMP signaling by targeting R-Smads and TGF type I receptor for ubiquitination and degradation (3). Studies have shown that SMURF2 functions as a tumor suppressor by maintaining genomic stability through targeting RNF20 (3). SMURF2 associates constitutively with SMAD7 (4).

### **SMURF2 Antibody - References**

Huibregtse JM, Scheffner M, Beaudenon S, et al. A family of proteins structurally and functionally related to the E6-AP ubiquitin-protein ligase. *Proc. Natl. Acad. Sci. USA* 1995; 92:2563-7.  
Hwang YS, Lee HS, Kamata T, et al. The Smurf ubiquitin ligases regulate tissue separation via antagonistic interactions with ephrinB1. *Genes Dev.* 2013; 27:491-503.  
Lin X, Liang M, and Feng XH. Smurf2 is a ubiquitin E3 ligase mediating proteasomedependent degradation of Smad2 in transforming growth factor-beta signaling. *J. Biol. Chem.* 2000; 275:36818-22.  
Kavsak P, Rasmussen RK, Causing CG, et al. Smad7 binds to Smurf2 to form an E3 ubiquitin ligase that targets the TGF-beta receptor for degradation. *Mol. Cell* 2000; 6:1365-75.