

**SMURF2 Antibody (C-term)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP2105b****Specification**

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**SMURF2 Antibody (C-term) - Product Information**

Application	IF, IHC-P, WB,E
Primary Accession	<a href="#">Q9HAU4</a>
Other Accession	<a href="#">A2A5Z6</a> , <a href="#">Q9PUN2</a> , <a href="#">Q9CUN6</a> , <a href="#">Q9HCE7</a>
Reactivity	Human, Rat
Predicted	Mouse, Xenopus
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	702-731

**SMURF2 Antibody (C-term) - Additional Information****Gene ID** 64750**Other Names**

E3 ubiquitin-protein ligase SMURF2, hSMURF2, 632-, SMAD ubiquitination regulatory factor 2, SMAD-specific E3 ubiquitin-protein ligase 2, SMURF2

**Target/Specificity**

This SMURF2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 702-731 amino acids from the C-terminal region of human SMURF2.

**Dilution**

IF~~1:10~50  
IHC-P~~1:50~100  
WB~~1:2000  
E~~Use at an assay dependent concentration.

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

**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**

SMURF2 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

**SMURF2 Antibody (C-term) - 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](#)). 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](#), PubMed:[12717440](#), PubMed:[21791611](#)). In addition, interaction with SMAD7 activates autocatalytic degradation, which is prevented by interaction with AIMP1 (PubMed:[18448069](#)). 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:[11016919](#), PubMed:[11158580](#), PubMed:[11389444](#)). SMAD2 may recruit substrates, such as SNON, for ubiquitin-dependent degradation (PubMed:[11389444](#)). Negatively regulates TGFβ1-induced epithelial-mesenchymal transition and myofibroblast differentiation (PubMed:[30696809](#)).

## 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

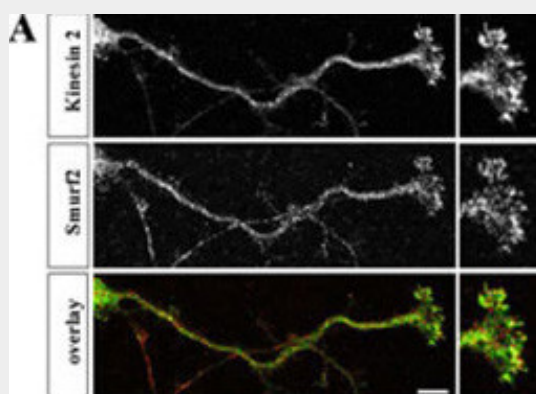
Widely expressed.

## SMURF2 Antibody (C-term) - Protocols

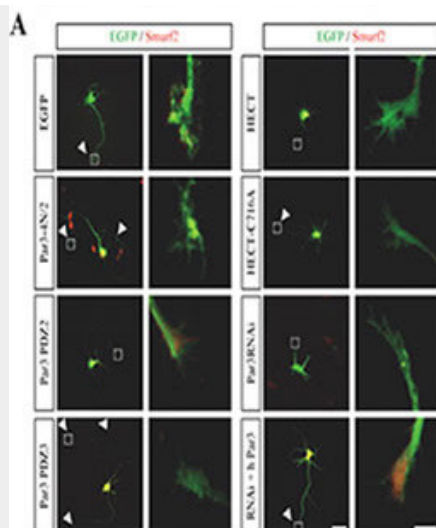
Provided below are standard protocols that you may find useful for product applications.

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

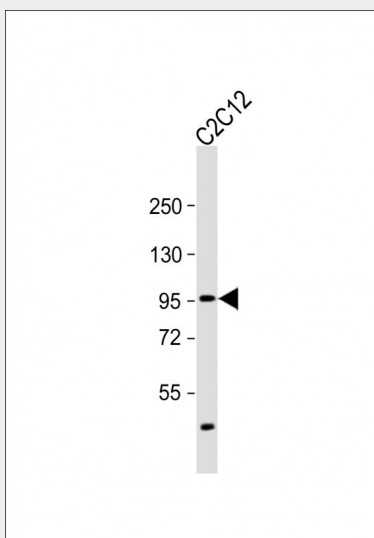
## SMURF2 Antibody (C-term) - Images



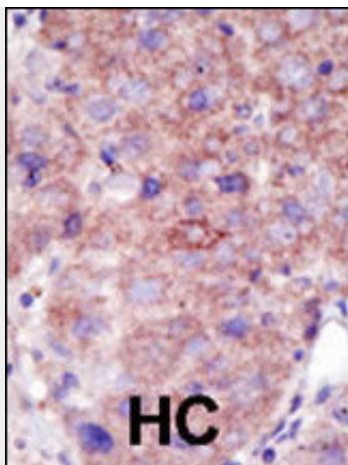
Hippocampal neurons were fixed at stage 3, stained with anti-Smurf2 (red) and anti-Kinesin-2 (green) antibodies, and analyzed by confocal microscopy. The panels show single confocal planes. (J. Biol. Chem. 2007 Nov 30;282(48):35259-35268)



Hippocampal neurons were transfected 2 h after plating with expression vectors for EGFP, EGFP-tagged Par3-4N/2, Par3-PDZ2, Par3-PDZ3, Smurf2-HECT (HECT), Smurf2-HECT-C716A (HECT CA), and shRNA directed against mPar3 (Par3 RNAi), or vectors for the anti-Par3 shRNA and human Myc-Par3 (RNAi + h Par3) (green). Transfected cells were analyzed at 3 d.i.v. by staining with an anti-Smurf2 antibody (red). Axons are marked by arrowheads. The marked growth cones are shown at a higher magnification. Scale bars, 40 and 10  $\mu$ m. (J. Biol. Chem. 2007 Nov 30;282(48):35259-35268)



Anti-SMURF2 Antibody (C-term) at 1:2000 dilution + C2C12 whole cell lysate Lysates/proteins at 20  $\mu$ g per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 86 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

#### **SMURF2 Antibody (C-term) - Background**

SMURF2 is an 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. This protein interacts with SMAD1, SMAD2 and SMAD7 in order to trigger their ubiquitination and proteasome-dependent degradation. It enhances the inhibitory activity of SMAD7 and reduces the transcriptional activity of SMAD2. Coexpression of SMURF2 with SMAD1 results in considerable decrease in steady-state level of SMAD1 protein and a smaller decrease of SMAD2 level.

#### **SMURF2 Antibody (C-term) - References**

Tajima, Y., et al., J. Biol. Chem. 278(12):10716-10721 (2003). Suzuki, C., et al., J. Biol. Chem. 277(42):39919-39925 (2002). Ebisawa, T., et al., J. Biol. Chem. 276(16):12477-12480 (2001). Zhu, H., et al., Nature 400(6745):687-693 (1999). Lambris, J., et al., J. Immunol. Methods 27(1):55-59 (1979).

#### **SMURF2 Antibody (C-term) - Citations**

- [The interaction of mPar3 with the ubiquitin ligase Smurf2 is required for the establishment of neuronal polarity.](#)