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SMURF2 Antibody
Catalog # ASC11791

Specification

SMURF2 Antibody - Product Information

Application	**WB, IHC-P, IF, E**
Primary Accession	Q9HAU4
Other Accession	NP_073576, 12232397
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**Predicted: 82 kDa** **Observed: 85 kDa KDa**
Application Notes	**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 Immunoflorescence start at 20 µg/mL.**

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℃ for three months and -20℃, 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). 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 TGFB1-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

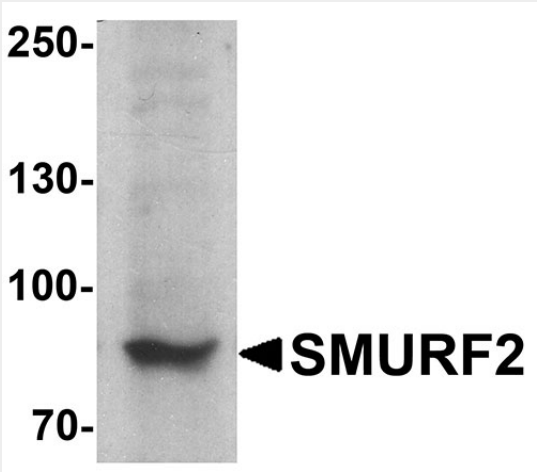
Tissue Location
Widely expressed.

SMURF2 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SMURF2 Antibody - Images



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

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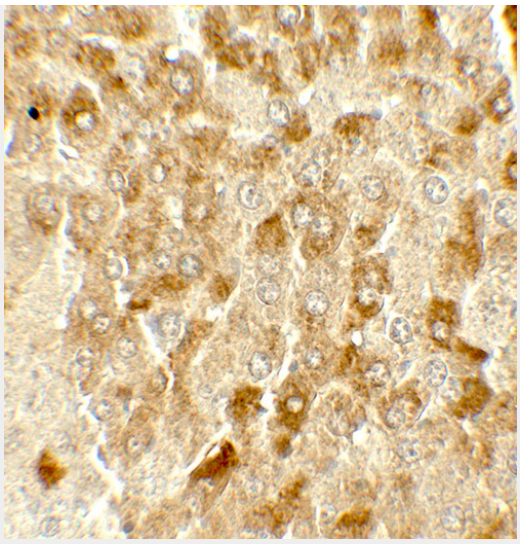
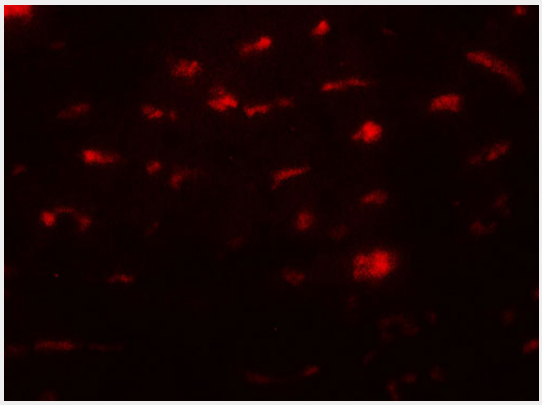


Immunohistochemistry of SMURF2 in mouse liver tissue with SMURF2 antibody at 5 µg/mL.



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.