

SMURF2 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM8633b

Product Information

Application	WB, E
Primary Accession	Q9HAU4
Reactivity	Human, Mouse
Host	Mouse
Clonality	monoclonal
Isotype	IgG1,k
Clone Names	1826CT865.51.28
Calculated MW	86196

Additional Information

Gene ID	64750
Other Names	E3 ubiquitin-protein ligase SMURF2, hSMURF2, 6.3.2.-, SMAD ubiquitination regulatory factor 2, SMAD-specific E3 ubiquitin-protein ligase 2, SMURF2
Target/Specificity	This SMURF2 antibody is generated from a mouse immunized with a recombinant protein of human SMURF2.
Dilution	WB~1:2000-1:4000 E~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, 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 is for research use only and not for use in diagnostic or therapeutic procedures.

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 , PubMed: 38016474). 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](#)). Acts as an activator of ferroptosis by mediating ubiquitination and degradation of GSTP1, thereby preventing detoxification of 4-hydroxynonenal (4-HNE) reactive aldehyde (PubMed:[38016474](#)).

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.

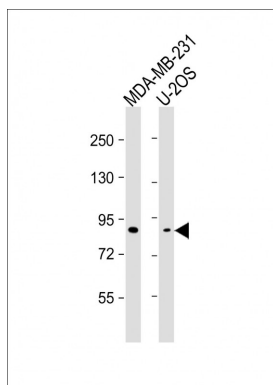
Background

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. Interacts with SMAD1 and SMAD7 in order to trigger their ubiquitination and proteasome-dependent degradation. In addition, interaction with SMAD7 activates autocatalytic degradation, which is prevented by interaction with SCYE1. Forms a stable complex with the TGF-beta receptor-mediated phosphorylated SMAD2 and SMAD3. In this way, SMAD2 may recruit substrates, such as SNON, for ubiquitin-mediated degradation. 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.

References

- Kavsak P., et al. *Mol. Cell* 6:1365-1375(2000).
Lin X., et al. *J. Biol. Chem.* 275:36818-36822(2000).
Zhang Y., et al. *Proc. Natl. Acad. Sci. U.S.A.* 98:974-979(2001).
Bonni S., et al. *Nat. Cell Biol.* 3:587-595(2001).
Di Guglielmo G.M., et al. *Nat. Cell Biol.* 5:410-421(2003).

Images



All lanes : Anti-SMURF2 Antibody at 1:2000-1:4000 dilution
Lane 1: MDA-MB-231 whole cell lysate
Lane 2: U-2OS whole cell lysate
Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 86 kDa
Blocking/Dilution buffer: 5% NFDM/TBST.

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