

SMURF1 Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2104a

Specification

SMURF1 Antibody (N-term) - Product Information

Application	WB, IHC-P,E
Primary Accession	Q9HCE7
Other Accession	Q2TAS2 , A2A5Z6 , Q9HAU4 , A9JRZ0 , Q9PUN2 , Q9CUN6
Reactivity	Human, Mouse
Predicted	Xenopus, Zebrafish
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	66-96

SMURF1 Antibody (N-term) - Additional Information

Gene ID 57154

Other Names

E3 ubiquitin-protein ligase SMURF1, hSMURF1, 632-, SMAD ubiquitination regulatory factor 1, SMAD-specific E3 ubiquitin-protein ligase 1, SMURF1, KIAA1625

Target/Specificity

This SMURF1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 66-96 amino acids from the N-terminal region of human SMURF1.

Dilution

WB~~1:2000
IHC-P~~1:10~50

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

SMURF1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

SMURF1 Antibody (N-term) - Protein Information

Name SMURF1

Synonyms KIAA1625

Function E3 ubiquitin-protein ligase that acts as a negative regulator of BMP signaling pathway. Mediates ubiquitination and degradation of SMAD1 and SMAD5, 2 receptor-regulated SMADs specific for the BMP pathway. Promotes ubiquitination and subsequent proteasomal degradation of TRAF family members and RHOA. Promotes ubiquitination and subsequent proteasomal degradation of MAVS (PubMed:[23087404](#)). Acts as an antagonist of TGF-beta signaling by ubiquitinating TGFBR1 and targeting it for degradation (PubMed:[21791611](#)). Plays a role in dendrite formation by melanocytes (PubMed:[23999003](#)).

Cellular Location

Cytoplasm. Cell membrane; Peripheral membrane protein; Cytoplasmic side

Tissue Location

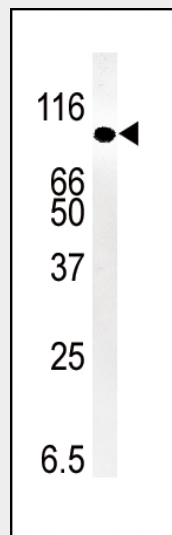
Expressed in melanocytes (PubMed:[23999003](#)).

SMURF1 Antibody (N-term) - Protocols

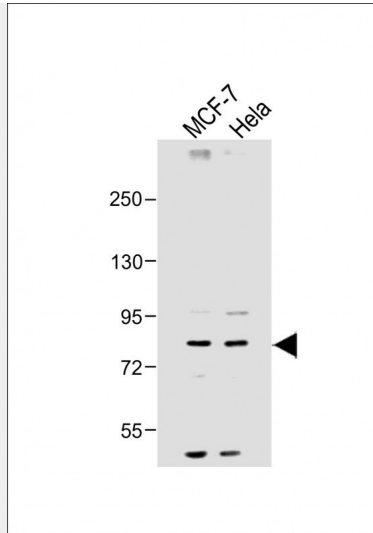
Provided below are standard protocols that you may find useful for product applications.

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

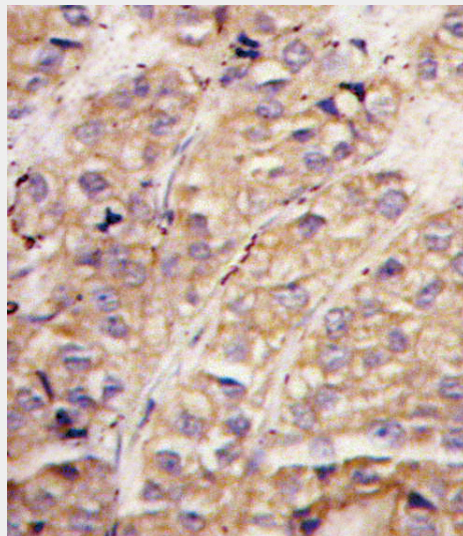
SMURF1 Antibody (N-term) - Images



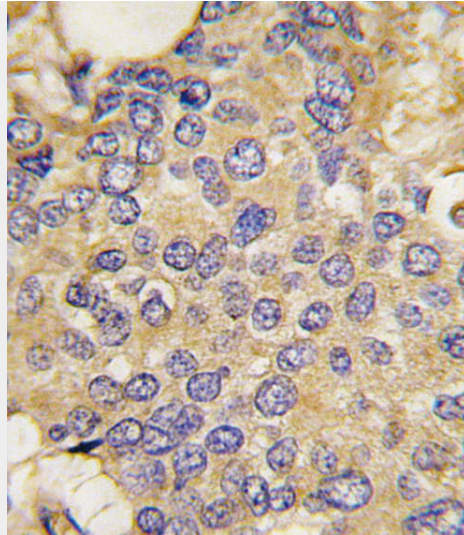
Western blot analysis of anti-SMURF1 Pab (Cat. #AP2104a) in mouse kidney tissue lysate (35ug/lane). SMURF1(arrow) was detected using the purified Pab.



All lanes : Anti-SMURF1 Antibody (N-term) at 1:2000 dilution Lane 1: MCF-7 whole cell lysate Lane 2: HeLa whole cell lysate Lysates/proteins at 20 μ 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% NFDN/TBST.



Formalin-fixed and paraffin-embedded human breast carcinoma tissue reacted with hSMURF1-W81 (Cat.#AP2104a), 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.



Formalin-fixed and paraffin-embedded human Testis tissue reacted with hSMURF1-W81 (Cat.#AP2104a), which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

SMURF1 Antibody (N-term) - Background

Members of the transforming growth factor-beta (TGFB) family signal through type I and type II serine/threonine-kinase receptors, which in turn activate the SMAD signaling pathway. Bone morphogenetic protein (BMP) receptors target SMAD1, SMAD5, and SMAD8, whereas receptors for activin and TGFB (e.g., ACVR1 and TGFBR1, respectively) target SMAD2 and SMAD3. Phosphorylation of these receptor-regulated SMADs induces their association with the common-partner SMAD, SMAD4. Smurf1, a HECT domain E3 ubiquitin ligase, regulates cell polarity and protrusive activity and is required to maintain the transformed morphology and motility of a tumor cell. Atypical protein kinase C-zeta (PKC2), an effector of the Cdc42/Rac1-PAR6 polarity complex, recruits Smurf1 to cellular protrusions, where it controlled the local level of RhoA. Smurf1 thus links the polarity complex to degradation of RhoA in lamellipodia and filopodia to prevent RhoA signaling during dynamic membrane movements.

SMURF1 Antibody (N-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).

SMURF1 Antibody (N-term) - Citations

- [Glucocorticoid-induced leucine zipper \(GILZ\) antagonizes TNF- \$\alpha\$ inhibition of mesenchymal stem cell osteogenic differentiation.](#)
- [Ubiquitin ligase Smurf1 mediates tumor necrosis factor-induced systemic bone loss by promoting proteasomal degradation of bone morphogenetic signaling proteins.](#)
- [Ubiquitination of the GTPase Rap1B by the ubiquitin ligase Smurf2 is required for the establishment of neuronal polarity.](#)
- [Tumor necrosis factor promotes Runx2 degradation through up-regulation of Smurf1 and Smurf2 in osteoblasts.](#)