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SMURF1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2104B

Product Information

Application	IHC-P, WB, E
Primary Accession	Q9HCE7
Other Accession	A2A5Z6, Q9HAU4, Q9PUN2, Q9CUN6
Reactivity	Human, Mouse
Predicted	Mouse, Xenopus
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	86114
Antigen Region	711-740

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 711-740 amino acids from the C-terminal region of human SMURF1.
Dilution	IHC-P~~1:100~500 WB~~1:500 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	SMURF1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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).

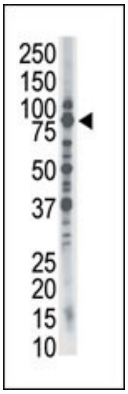
Background

SMURF1 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 receptor-regulated SMADs specific for the BMP pathway, SMAD1 and SMAD5, in order to trigger their ubiquitination and degradation and thereby their inactivation.

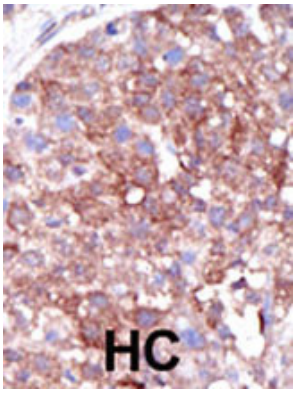
References

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).

Images



The anti-SMURF1 Pab (Cat. #AP2104b) is used in Western blot to detect SMURF1 in HL-60 cell lysate.



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.

Citations

- The interaction of mPar3 with the ubiquitin ligase Smurf2 is required for the establishment of neuronal polarity.