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SMURF1 Antibody

Catalog # ASC11844

Product Information

Application	WB, E, IHC-P
Primary Accession	Q9HCE7
Other Accession	NP_065162, 31317292
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	86114
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	SMURF1 body can be used for detection of SMURF1 by Western blot at 1 - 2 g/ml. Antibody can also be used for Immunohistochemistry starting at 5 g/mL.

Additional Information

Gene ID	57154
Other Names	E3 ubiquitin-protein ligase SMURF1, hSMURF1, 6.3.2.-, SMAD ubiquitination regulatory factor 1, SMAD-specific E3 ubiquitin-protein ligase 1, SMURF1, KIAA1625
Target/Specificity	SMURF1; SMURF1 antibody is human, mouse and rat reactive. At least three isoforms of SMURF1 are known to exist this antibody will recognize all three isoforms. SMURF1 is predicted to not cross-react with SMURF2.
Reconstitution & Storage	SMURF1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	SMURF1 Antibody 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 a positive regulator of

	smoothened signaling pathway by mediating ubiquitination of PTCH1, leading to endocytosis and lysosomal degradation of PTCH1 (By similarity). 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).

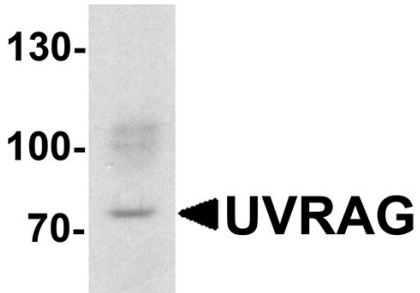
Background

SMURF1 (SMAD ubiquitin regulatory factor 1) 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). SMURF1 negatively regulates osteoblast activity and response to bone morphogenesis protein (BMP) through controlling MEKK2 degradation (3). SMURF1 has recently been shown to play a role in breast cancer cell migration and invasion through the downregulation of RhoA (4).

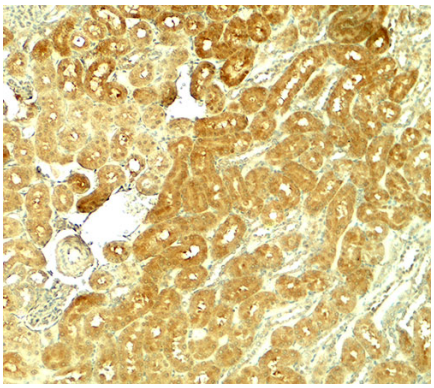
References

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.
Yamashita M, Ying SX, Zhang G, et al. Ubiquitin ligase Smurf1 controls osteoblast activity and bone homeostasis by targeting MEKK2 for degradation. Cell 2005; 121:101-113.
Kwon A, Lee HL, Woo KM, et al. SMURF1 plays a role in EGF-induced breast cancer cell migration and invasion. Mol. Cells 2013; 36:548-55.

Images



Western blot analysis of SMURF1 in 293 cell lysate with SMURF1 antibody at 1 µg/ml.



Immunohistochemistry of SMURF1 in rat kidney tissue with SMURF1 antibody at 5 µg/ml.

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