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# SMURF1 Antibody

Catalog # ASC11844

## Product Information

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| **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

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| **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

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| **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 |

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| | 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). |

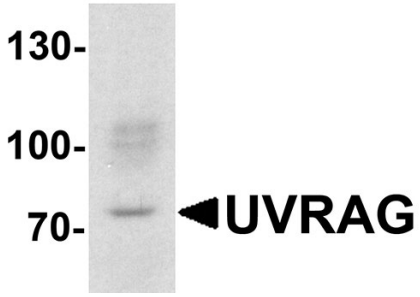
## Background

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).

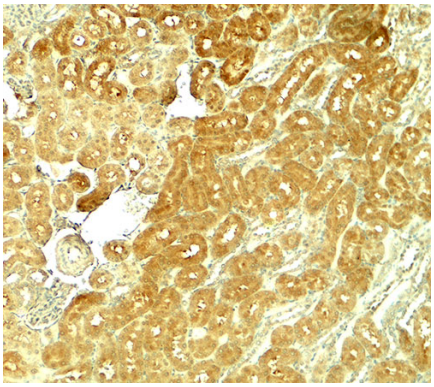
## References


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.