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SMURF2 Rabbit pAb

Catalog # AP96459

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q52LL1
Other Accession	Q52LL1
Reactivity	Human, Mouse
Predicted	Rat, Chicken, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	82 KDa
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human SMURF2
Epitope Specificity	601-700/748
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 1 C2 domain. Contains 1 HECT (E6AP-type E3 ubiquitin-protein ligase) domain. Contains 3 WW domains.
SUBUNIT	Interacts (via WW domains) with SMAD1. Interacts (via WW domains) with SMAD2 (via PY-motif). Interacts (via WW domains) with SMAD3 (via PY-motif). Interacts with SMAD6. Interacts with SMAD7 (via PY-motif) and TGFBR1; SMAD7 recruits SMURF2 to the TGF-beta receptor and regulates its degradation. Does not interact with SMAD4; SMAD4 lacks a PY-motif. Interacts with AIMP1. Interacts with STAMBP and RNF11. Interacts with NDFIP1 and NDFIP2 (Probable); this interaction activates the E3 ubiquitin-protein ligase.
Post-translational modifications	Auto-ubiquitinated and ubiquitinated in the presence of RNF11 and UBE2D1. Ubiquitinated by the SCF(FBXL15) complex, leading to its degradation by the proteasome.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	SMURF2, a 748-amino acid ubiquitin E3 ligase that is 83% identical to SMURF1, codes for a C2-WW-HECT domain ubiquitin ligase that associates constitutively with SMAD7. Binding to SMAD7 induces export of SMURF2 and recruitment to the activated transforming growth factor-beta receptor (TGFBR), where it causes receptor and SMAD7 degradation. A strong interaction of second and third SMURF2 WW domains has been identified with SMAD1, SMAD2, and SMAD3, but not SMAD4. Western blot analysis showed that SMURF2 selectively downregulates the transcription of SMAD2 and SMAD1, but not SMAD3. The nuclear SMURF2/phosphorylated SMAD2 interaction is requires TGFB1.

Additional Information

Gene ID	64750

Other Names	2810411E22Rik; RGD1310067; Q52LL1_HUMAN; SMUF2_HUMAN; SMURF2; hSMURF2; HECT-type E3 ubiquitin transferase SMURF2; SMAD ubiquitination regulatory factor 2; SMAD-specific E3 ubiquitin-protein ligase 2; 2.3.2.26; SMUF2_MOUSE; Q3TT87_MOUSE; Q5IRE6_MOUSE; SMAD specific E3 ubiquitin protein ligase 2
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=3ug /test
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	SMURF2 Rabbit pAb
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. 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.

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