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Anti-SMURF 2 Antibody

Catalog # ABO12778

Product Information

Application	WB
Primary Accession	Q9HAU4
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for E3 ubiquitin-protein ligase SMURF2(SMURF2) detection. Tested with WB in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	64750
Other Names	E3 ubiquitin-protein ligase SMURF2, hSMURF2, 2.3.2.26, HECT-type E3 ubiquitin transferase SMURF2, SMAD ubiquitination regulatory factor 2, SMAD-specific E3 ubiquitin-protein ligase 2, SMURF2
Calculated MW	86196
Application Details	Western blot, 0.1-0.5 □g/ml, Human
Subcellular Localization	Nucleus . Cytoplasm . Cell membrane . Membrane raft . Cytoplasmic in the presence of SMAD7. Colocalizes with CAV1, SMAD7 and TGF-beta receptor in membrane rafts.
Tissue Specificity	Widely expressed.
Source	Eukaryota
Protein Name	E3 ubiquitin-protein ligase SMURF2
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence in the middle region of human SMURF 2 (317-351aa DHNNRTTQFTDPRLSANLHLVLNRQNQLKDQQQQQ), identical to the related mouse sequence.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins.

Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Protein Information

Name	SMURF2 (HGNC:16809)
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 (PubMed:11016919, PubMed:38016474). Interacts with SMAD7 to trigger SMAD7-mediated transforming growth factor beta/TGF-beta receptor ubiquitin-dependent degradation, thereby down-regulating TGF-beta signaling (PubMed:11163210, PubMed:12717440, PubMed:21791611). In addition, interaction with SMAD7 activates autocatalytic degradation, which is prevented by interaction with AIMP1 (PubMed:18448069). Also forms a stable complex with TGF-beta receptor-mediated phosphorylated SMAD1, SMAD2 and SMAD3, and targets SMAD1 and SMAD2 for ubiquitination and proteasome-mediated degradation (PubMed:11016919, PubMed:11158580, PubMed:11389444). SMAD2 may recruit substrates, such as SNON, for ubiquitin-dependent degradation (PubMed:11389444). Negatively regulates TGFB1-induced epithelial-mesenchymal transition and myofibroblast differentiation (PubMed:30696809). Acts as an activator of ferroptosis by mediating ubiquitination and degradation of GSTP1, thereby preventing detoxification of 4-hydroxynonenal (4-HNE) reactive aldehyde (PubMed:38016474). Acts as a positive regulator of smoothened signaling pathway by mediating ubiquitination of PTCH1, leading to endocytosis and lysosomal degradation of PTCH1 (By similarity).
Cellular Location	Nucleus. Cytoplasm. Cell membrane. Membrane raft. Note=Cytoplasmic in the presence of SMAD7. Colocalizes with CAV1, SMAD7 and TGF-beta receptor in membrane rafts
Tissue Location	Widely expressed.

Background

E3 ubiquitin-protein ligase SMURF2 is an enzyme that in humans is encoded by the SMURF2 gene. The SMURF2 gene is mapped to chromosome 17q22-q23 based on sequence similarity between the SMURF2 sequence and a genomic contig. SMURF2 is a HECT domain E3 ubiquitin ligase involved in degradation of SMADs, TGF-beta receptor (TGFBR), and other substrates. It also functions in regulation of neuronal and planar cell polarity, induction of senescence, and tumor suppression

Images

Western blot analysis of SMURF2 expression in SMMC whole cell lysates (lane 1). SMURF2 at 86KD was detected using rabbit anti- SMURF2 Antigen Affinity purified polyclonal antibody (Catalog # ABO12778) at0.5 ??g/mL. The blot was developed using chemiluminescence (ECL) method .



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