10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

TRIP12 Antibody

Catalog # ASC11848

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q14669
Other Accession	NP_004229, 10863903
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	228484
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	TRIP12 antibody can be used for detection of TRIP12 by Western blot at 1 - 2 g/ml. Antibody can also be used for Immunohistochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	9320
Other Names	E3 ubiquitin-protein ligase TRIP12, 6.3.2.-, E3 ubiquitin-protein ligase for Arf, ULF, Thyroid receptor-interacting protein 12, TR-interacting protein 12, TRIP-12, TRIP12, KIAA0045, ULF
Target/Specificity	TRIP12; TRIP12 antibody is human, mouse and rat reactive. At least four isoforms are known to exist.
Reconstitution & Storage	TRIP12 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	TRIP12 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TRIP12
Synonyms	KIAA0045, ULF
Function	E3 ubiquitin-protein ligase involved in ubiquitin fusion degradation (UFD) pathway and regulation of DNA repair (PubMed:19028681, PubMed:22884692, PubMed:40419785). Part of the ubiquitin fusion degradation (UFD) pathway, a process that mediates ubiquitination of protein at their N-terminus, regardless of the presence of lysine residues in target proteins (PubMed:19028681). Acts as a key regulator of DNA damage response by acting as a suppressor of RNF168, an E3 ubiquitin-protein ligase

that promotes accumulation of 'Lys-63'-linked histone H2A and H2AX at DNA damage sites, thereby acting as a guard against excessive spreading of ubiquitinated chromatin at damaged chromosomes (PubMed:22884692). In normal cells, mediates ubiquitination and degradation of isoform p19ARF/ARF of CDKN2A, a lysine-less tumor suppressor required for p53/TP53 activation under oncogenic stress (PubMed:20208519). In cancer cells, however, isoform p19ARF/ARF and TRIP12 are located in different cell compartments, preventing isoform p19ARF/ARF ubiquitination and degradation (PubMed:20208519). Does not mediate ubiquitination of isoform p16-INK4a of CDKN2A (PubMed:20208519). Also catalyzes ubiquitination of NAE1 and SMARCE1, leading to their degradation (PubMed:18627766). Ubiquitination and degradation of target proteins is regulated by interaction with proteins such as MYC, TRADD or SMARCC1, which disrupt the interaction between TRIP12 and target proteins (PubMed:20829358). Mediates ubiquitination of ASXL1: following binding to N(6)-methyladenosine methylated DNA, ASXL1 is ubiquitinated by TRIP12, leading to its degradation and subsequent inactivation of the PR-DUB complex (PubMed:30982744).

Cellular Location Nucleus, nucleoplasm

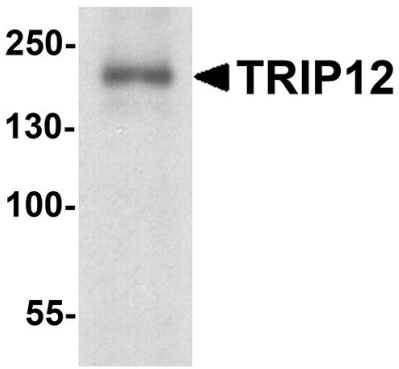
Background

Thyroid hormone receptors (TRs) are transcription factors that regulate the expression of specific genes in a hormone-dependent manner (1). TRIP12 (thyroid hormone receptor interactor 12) is an ATP-dependent E3 ubiquitin ligase involved in the human ubiquitin fusion degradation (UFD) pathway and also modulates the NEDD8 pathway (2,3). TRIP12 contains one WWE domain and a single HECT (E6AP-type E3 ubiquitin-protein ligase) domain suggested to contain a noncovalent ubiquitin-binding site (4). TRIP12 acts as a key regulator of DNA damage response and the ubiquitin ligase activity of TRIP12 is essential for mouse development (5).

References

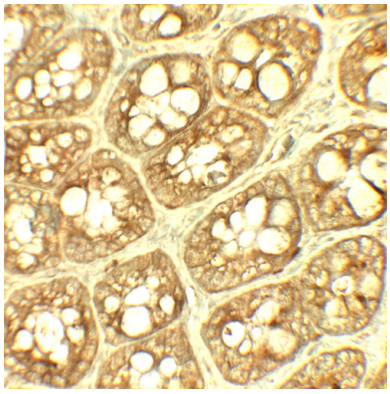
Lee JW, Choi HS, Gyuris J, et al. Two classes of proteins dependent on either the presence or absence of thyroid hormone for interaction with the thyroid hormone receptor. Mol. Endocrinol. 1995; 9:243–54.
An CI, Ganio E, and Hagiwara N. Trip12, a HECT domain E3 ubiquitin ligase, targets Sox6 for proteasomal degradation and affects fiber type-specific gene expression in muscle cells. Skelet. Muscle 2013; 3:11.
Poulsen EG, Steinhauer C, Lees M, et al. HUWE1 and TRIP12 collaborate in degradation of ubiquitin-fusion proteins and misframed ubiquitin. PLoS One. 2012; 7:e50548.
Park Y, Yoon SK, and Yoon JB. The HECT domain of TRIP12 ubiquitinates substrates of the ubiquitin fusion degradation pathway. J. Biol. Chem. 2009; 284:1540-9.

Images

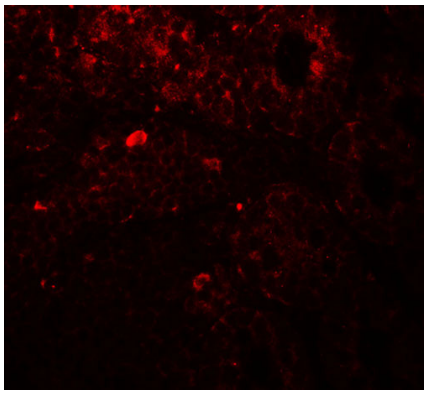


Western blot analysis of TRIP12 in rat colon tissue lysate with TRIP12 antibody at 1 µg/ml.

Immunohistochemistry of TRIP12 in rat colon tissue with



TRIP12 antibody at 5 µg/ml.



Immunofluorescence of TRIP12 in rat colon tissue with TRIP12 antibody at 20 µg/ml.

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