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TRIM33 Antibody
Catalog # ASC11667

Specification

TRIM33 Antibody - Product Information

Application	**WB, IHC, IF**
Primary Accession	Q9UPN9
Other Accession	NP_056990, 74027249
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**Predicted: 70, 124 kDa** **Observed: 70 kDa KDa**
Application Notes	**TRIM33 antibody can be used for detection of TRIM33 by Western blot at 1 - 2 µg/mL.**

TRIM33 Antibody - Additional Information

Gene ID **51592**

Target/Specificity
TRIM33; TRIM33 antibody is human, mouse and rat reactive. At least two isoforms of TRIM33 are known to exist.

Reconstitution & Storage
TRIM33 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.

Precautions
TRIM33 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

TRIM33 Antibody - Protein Information

Name TRIM33

Synonyms KIAA1113, RFG7, TIF1G

Function
Acts as an E3 ubiquitin-protein ligase. Promotes SMAD4 ubiquitination, nuclear exclusion and degradation via the ubiquitin proteasome pathway. According to PubMed:16751102, does not promote a decrease in the level of endogenous SMAD4. May act as a transcriptional repressor. Inhibits the transcriptional response to TGF-beta/BMP signaling cascade. Plays a role in the control of cell proliferation. Its association with SMAD2 and SMAD3 stimulates erythroid differentiation of hematopoietic stem/progenitor (By similarity). Monoubiquitinates SMAD4 and acts as an inhibitor of SMAD4-dependent TGF-beta/BMP signaling cascade (Monoubiquitination of SMAD4 hampers its ability to form a stable complex with activated SMAD2/3 resulting in inhibition of TGF-beta/BMP signaling cascade).

Cellular Location
Nucleus. Note=In discrete nuclear dots resembling nuclear bodies (By similarity). Localizes to sites of DNA damage (PubMed:25593309). {ECO:0000250|UniProtKB:Q99PP7, ECO:0000269|PubMed:25593309}

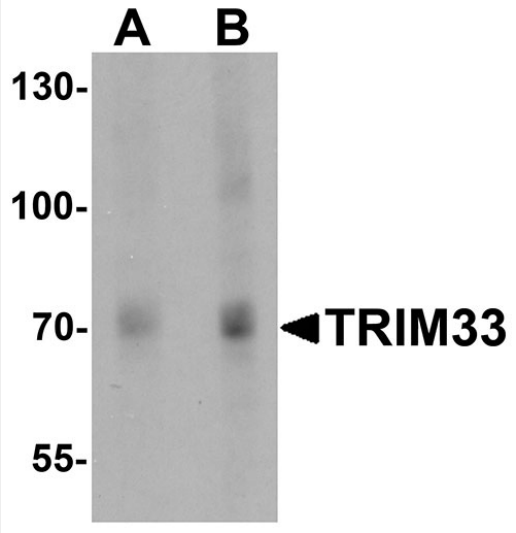
Tissue Location
Expressed in stem cells at the bottom of the crypts of the colon (at protein level). Expressed in colon adenomas and adenocarcinomas (at protein level). Expressed in brain, lung, liver, spleen, thymus, prostate, kidney, testis, heart, placenta, pancreas, small intestine, ovary, colon, skeletal muscle and hematopoietic progenitors

TRIM33 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

TRIM33 Antibody - Images



Western blot analysis of TRIM33 in human liver tissue lysate with TRIM33 antibody at (A) 1 and (B) 2 µg/mL.

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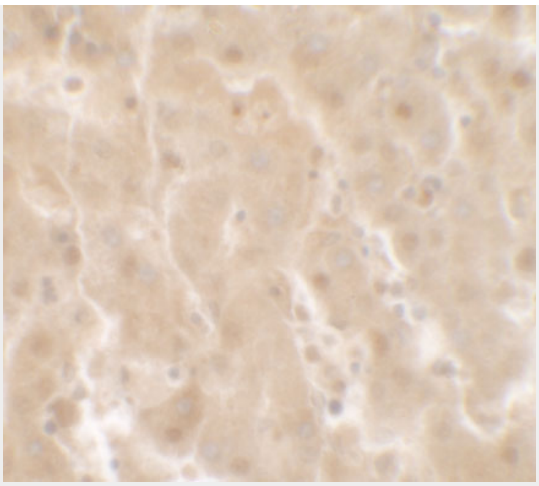
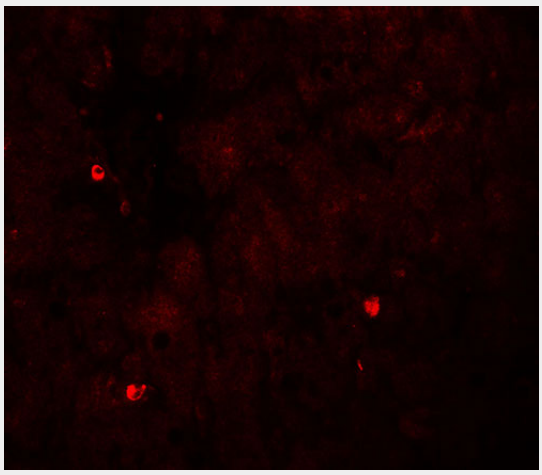


Immunohistochemistry of TRIM33 in human liver tissue with TRIM33 antibody at 2.5 µg/ml.



Immunofluorescence of TRIM33 in human liver tissue with TRIM33 antibody at 20 µg/ml.

TRIM33 Antibody - Background

TRIM33 Antibody: TRIM24 (TIF1alpha), TRIM28 (TIF1beta), and TRIM33 (TIF1gamma) are three related cofactors belonging to the tripartite motif superfamily that interact with distinct transcription factors (1-2). The structure of TRIM33 is similar to TRIM24 and TRIM28, exhibiting multiple domains (RING finger, coiled coil, B boxes, PHD/TTC, and bromodomain) (3). TRIM33 functions in cell differentiation and development, playing a role in differentiation of hematopoietic cells (3). It interacts with the Smad2/3 transcription factor in hematopoietic, mesenchymal, and epithelial cell types to mediate different transcriptional effects in response to TGF-beta (4). It acts as an E3 ubiquitin-protein ligase and promotes SMAD4 ubiquitination (5).

TRIM33 Antibody - References

Ransom DG, Bahary N, Niss K, et al. The zebrafish moonshine gene encodes transcriptional intermediary factor 1gamma, an essential regulator of hematopoiesis. PLoS Biol. 2004; 2:E237.
Herquel B, Ouararhni K, Khetchoumian K, et al. Transcription cofactors TRIM24, TRIM28, and TRIM33 associate to form regulatory complexes that suppress murine hepatocellular carcinoma. Proc. Natl. Acad. Sci. USA 2011; 108:8212-7.
He W, Dorn DC, Erdjument-Bromage H, et al. Hematopoiesis controlled by distinct TIF1gamma and Smad4 branches of the TGFbeta pathway. Cell 2006; 125:929-41.
Dupont S, Inui M, Newfeld SJ. Regulation of TGF-β signal transduction by mono- and deubiquitylation of Smads. FEBS Lett. 2012; 586:1913-20.