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TRIM5 alpha Antibody

Catalog # ASC10227

Product Information

Application	WB, IF, E
Primary Accession	Q9C035
Other Accession	NP_149023, 14719418
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	56338
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	TRIM5 alpha antibody can be used for detection of TRIM5 alpha by Western blot at 2 μg/mL. Antibody can also be used for immunoflourescence starting at 10 μg/mL. For immunofluorescence start at 10 μg/mL.

Additional Information

Gene ID	85363
Other Names	TRIM5 alpha Antibody: RNF88, TRIM5alpha, RNF88, Tripartite motif-containing protein 5, RING finger protein 88, tripartite motif-containing 5
Target/Specificity	TRIM5; Anti-TRIM5 alpha is human reactive but should presumably also react with rhesus protein.
Reconstitution & Storage	TRIM5 alpha antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	TRIM5 alpha Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TRIM5
Synonyms	RNF88
Function	Capsid-specific restriction factor that prevents infection from non-host-adapted retroviruses. Blocks viral replication early in the life cycle, after viral entry but before reverse transcription. In addition to acting as a capsid-specific restriction factor, also acts as a pattern recognition receptor that activates innate immune signaling in response to the retroviral capsid lattice. Binding to the viral capsid triggers its E3 ubiquitin ligase activity, and in

	concert with the heterodimeric ubiquitin conjugating enzyme complex UBE2V1- UBE2N (also known as UBC13-UEV1A complex) generates 'Lys-63'-linked polyubiquitin chains, which in turn are catalysts in the autophosphorylation of the MAP3K7/TAK1 complex (includes TAK1, TAB2, and TAB3). Activation of the MAP3K7/TAK1 complex by autophosphorylation results in the induction and expression of NF-kappa-B and MAPK- responsive inflammatory genes, thereby leading to an innate immune response in the infected cell. Restricts infection by N-tropic murine leukemia virus (N-MLV), equine infectious anemia virus (EIAV), simian immunodeficiency virus of macaques (SIVmac), feline immunodeficiency virus (FIV), and bovine immunodeficiency virus (BIV) (PubMed:17156811). Plays a role in regulating autophagy through activation of autophagy regulator BECN1 by causing its dissociation from its inhibitors BCL2 and TAB2 (PubMed:25127057). Also plays a role in autophagy by acting as a selective autophagy receptor which recognizes and targets HIV-1 capsid protein p24 for autophagic destruction (PubMed:25127057).
Cellular Location	Cytoplasm. Nucleus {ECO:0000250|UniProtKB:Q0PF16}. Note=Predominantly localizes in cytoplasmic bodies (PubMed:12878161, PubMed:20357094). Localization may be influenced by the coexpression of other TRIM proteins, hence partial nuclear localization is observed in the presence of TRIM22 or TRIM27 (By similarity). In cytoplasmic bodies, colocalizes with proteasomal subunits and SQSTM1 (By similarity). {ECO:0000250|UniProtKB:Q0PF16, ECO:0000269|PubMed:12878161, ECO:0000269|PubMed:20357094, ECO:0000269|PubMed:25127057}

Background

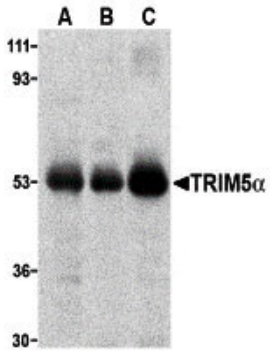
TRIM5 alpha Antibody: TRIM5 is a member of a broad family of otherwise unrelated proteins defined by the presence of a tripartite motif containing a RING domain, a B-box type 1, and a B-box type 2, followed by a coiled-coil region. TRIM5 has six alternately spliced isoforms, the longest of which is the alpha variant which also contains a carboxy-terminal B30.2 (SPRY) domain. Expression of TRIM5α variants from humans, rhesus monkeys, and African green monkeys enabled resistance to infection by various retroviruses including HIV-1, albeit at differing efficiencies. All TRIM5α variants could inhibit at least two different retroviruses, but not from those viruses isolated from the same species, suggesting that TRIM5α acts as a natural barrier to cross-species retrovirus transmission.

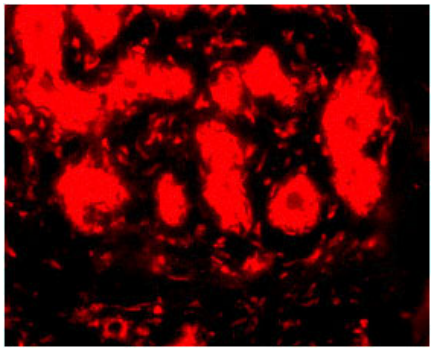
References

Reymond A, Meroni G, Fantozzi A, et al. The tripartite motif family identifies cell compartments. EMBO J. 2001; 20:2140-51.
Stremlau M, Owens CM, Perron MJ, et al. The cytoplasmic body component TRIM5a restricts HIV-1 infection in Old World monkeys. Nature 2004; 427:848-53.
Hatziioannou T, Perez-Caballero D, Yang A, et al. Retrovirus resistance factors REF1 and Lv1 are species-specific variants of TRIM5α. Proc. Nat'l. Acad. Sci. USA 2004; 101:10774-9

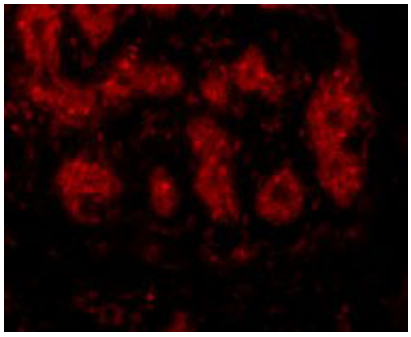
Images

Western blot analysis of TRIM5 alpha expression in (A) human stomach, (B) thymus, and (C) uterus tissue lysate with TRIM5 alpha antibody at 2 µg/ml.





Immunofluorescence of TRIM5 alpha in human breast tissue with TRIM5 alpha antibody at 10 µg/mL.



Immunofluorescence of TRIM5 alpha in Human Breast tissue with TRIM5 alpha antibody at 10 µg/mL.

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