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TRIM5 gamma Antibody

Catalog # ASC10224

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q9C035
Other Accession	NP_149083, 15011944
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	56338
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	TRIM5 gamma antibody can be used for detection of TRIM5 gamma by Western blot at 2 μg/mL. A band at approximately 35 kDa can be detected. Antibody can also be used for immunohistochemistry starting at 2 μg/mL. For immunofluorescence start at 20 μg/mL.

Additional Information

Gene ID	85363
Other Names	TRIM5 gamma Antibody: RNF88, TRIM5alpha, RNF88, Tripartite motif-containing protein 5, RING finger protein 88, tripartite motif-containing 5
Target/Specificity	TRIM5;
Reconstitution & Storage	TRIM5 gamma 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 gamma 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 gamma 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 five alternately spliced isoforms, the longest of which is the alpha variant which also contains a carboxy-terminal B30.2 (SPRY) domain. While a function has not yet been assigned to TRIM5gamma, it is known that expression of TRIM5α variants from humans, rhesus monkeys, and African green monkeys enable resistance to infection by various retroviruses including HIV-1, albeit at differing efficiencies. Furthermore, the TRIM5δ isoform appears to serve as a scaffold for the assembly of endogenous BTBD1 and BTBD2 proteins and also exhibits autoubiquitination activity in a RING finger- and UbcH5B-dependent manner.

References

Reymond A, Meroni G, Fantozzi A, et al. The tripartite motif family identifies cell compartments. EMBO J. 2001; 20:2140-51.

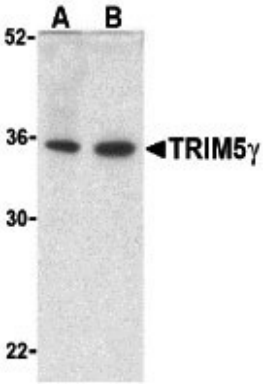
Stremlau M, Owens CM, Perron MJ, et al. The cytoplasmic body component TRIM5a restricts HIV-1 infection in Old World monkeys. Nature 2004; 427:848-53.

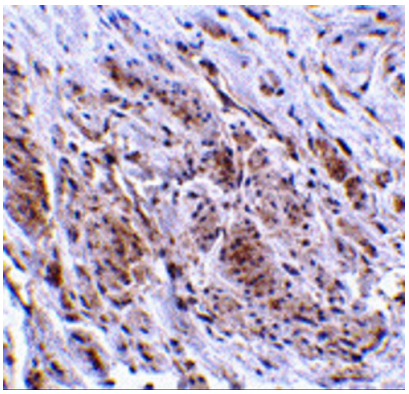
Hatziioannou T, Perez-Caballero D, Yang A, et al. Retrovirus resistance factors REF1 and Lv1 are species-specific variants of TRIM5α. Proc. Nat'l. Acad. Sci. USA 2004; 101:10774-9

Xu L, Yang L, Moitra PK, et al. BTBD1 and BTBD2 colocalize to cytoplasmic bodies with the RBCC/tripartite motif protein, TRIM5a. Exp. Cell Res. 2003; 288:84-93.

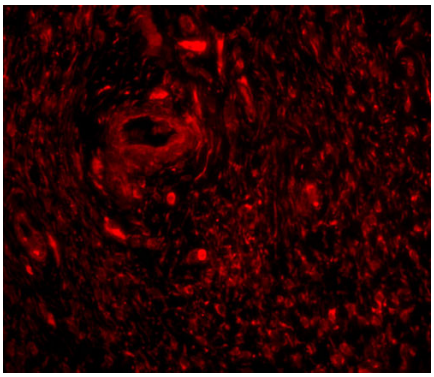
Images

Western blot analysis of TRIM5 gamma expression in human bladder (A) and colon (B) cell lysate with TRIM5 gamma antibody at 2 µg /ml.





Immunohistochemistry of TRIM5 gamma in human bladder tissue with TRIM5 gamma antibody at 2 µg/mL.



Immunofluorescence of TRIM5 gamma in human bladder tissue with TRIM5 gamma antibody at 20 µg/mL.

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