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Trim5a Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1023a

Product Information

Application	WB, IHC, E
Primary Accession	Q9C035
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	3B11H2
Isotype	IgG1
Calculated MW	56338
Description	TRIM5-alpha is a protein that is found in the cells of many mammals and fends of various retrovirus infections. It protects monkeys from infection with HIV-1, and humans from infection with some other viruses. If a retrovirus has entered a cell, it needs to shed its capsid in order to reversely transcribe its genes, so that they can be expressed by the host cell. It is believed that TRIM5 alpha, which is present in the cytoplasm, somehow recognizes the capsid and blocks its shedding, thereby stopping the virus in its tracks. It thus represents an intracellular defense completely separate from the rest of the body's immune system.
Immunogen	Purified recombinant fragment of human trim5 alpha expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	85363
Other Names	RNF88; TRIM5alpha
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Trim5a 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}

References

1. Stremlau, M. Nature 2004.427:848-53. 2. Song, B. J Virol. 2005.79(7):3930-7.

Images

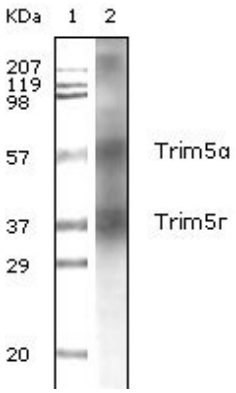
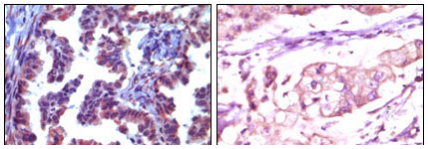


Figure 1: Western blot analysis using Trim5α mouse mAb against human breast carcinoma tissue lysate.

Figure 2: Immunohistochemical analysis of paraffin-embedded human metastatic adenocarcinoma(A) and stomach adenocarcinoma (B), showing cytoplasmic localization using Trim5α mouse



mAb with AEC staining (A) and DAB staining(B).

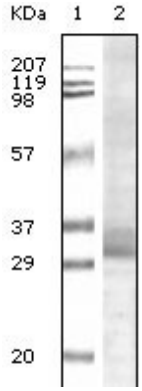


Figure 3: Western blot analysis using Trim5α mouse monoclonal antiobdy against truncated Trim5αrecombinant protein.