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ATAD5 Rabbit pAb

Catalog # AP98145

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q96QE3
Other Accession	Q96QE3
Reactivity	Mouse
Predicted	Rat, Pig, Human, Rabbit, Chicken, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	207570
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human ATAD5
Epitope Specificity	1151-1250/1844
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the AAA ATPase family.
SUBUNIT	Interacts with RB1 predominantly in G1 phase via its LXCXE motif. Interacts with RAD9A in growing cells. The interaction with RAD9A is reduced after exposure to DNA replication-inhibiting agents.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	ATAD5 is a homolog of a subunit of RFC (replication factor C) and has been shown to be down-regulated in response to replicative stress. ATAD5 may play a role in the surveillance of DNA damage and the cell's decision to survive or activate apoptosis.

Additional Information

Gene ID	79915
Other Names	C17orf41; ELG1; FRAG1; ATAD5_HUMAN; ATAD5; Chromosome fragility-associated gene 1 protein; ATPase family AAA domain containing 5; chromosome 17 open reading frame 41; enhanced level of genomic instability 1 homolog (S. cerevisiae)
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	ATAD5 (HGNC:25752)
Function	Has an important role in DNA replication and in maintaining genome integrity during replication stress (PubMed:15983387, PubMed:19755857). Involved in a RAD9A-related damage checkpoint, a pathway that is important in determining whether DNA damage is compatible with cell survival or whether it requires cell elimination by apoptosis (PubMed:15983387). Modulates the RAD9A interaction with BCL2 and thereby induces DNA damage-induced apoptosis (PubMed:15983387). Promotes PCNA deubiquitination by recruiting the ubiquitin-specific protease 1 (USP1) and WDR48 thereby down-regulating the error-prone damage bypass pathway (PubMed:20147293). As component of the ATAD5 RFC-like complex, regulates the function of the DNA polymerase processivity factor PCNA by unloading the ring-shaped PCNA homotrimer from DNA after replication during the S phase of the cell cycle (PubMed:23277426, PubMed:23937667). This seems to be dependent on its ATPase activity (PubMed:23277426). Plays important roles in restarting stalled replication forks under replication stress, by unloading the PCNA homotrimer from DNA and recruiting RAD51 possibly through an ATR-dependent manner (PubMed:31844045). Ultimately this enables replication fork regression, breakage, and eventual fork restart (PubMed:31844045). Both the PCNA unloading activity and the interaction with WDR48 are required to efficiently recruit RAD51 to stalled replication forks (PubMed:31844045). Promotes the generation of MUS81-mediated single-stranded DNA-associated breaks in response to replication stress, which is an alternative pathway to restart stalled/regressed replication forks (PubMed:31844045).
Cellular Location	Nucleus. Note=Accumulates in nuclear foci at sites of stalled DNA replication forks in response to DNA damage

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.