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PIWIL2 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP19056a

Product Information

Application	WB, E
Primary Accession	Q8TC59
Other Accession	NP_060538.2
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB39798
Calculated MW	109849
Antigen Region	90-119

Additional Information

Gene ID	55124
Other Names	Piwi-like protein 2, Cancer/testis antigen 80, CT80, PIWIL2, HILI
Target/Specificity	This PIWIL2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 90-119 amino acids from the N-terminal region of human PIWIL2.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PIWIL2 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PIWIL2
Synonyms	HILI
Function	Endoribonuclease that plays a central role during spermatogenesis by repressing transposable elements and preventing their mobilization, which is

	essential for the germline integrity (By similarity). Plays an essential role in meiotic differentiation of spermatocytes, germ cell differentiation and in self-renewal of spermatogonial stem cells (By similarity). Acts via the piRNA metabolic process, which mediates the repression of transposable elements during meiosis by forming complexes composed of piRNAs and Piwi proteins and govern the methylation and subsequent repression of transposons (By similarity). During piRNA biosynthesis, plays a key role in the piRNA amplification loop, also named ping-pong amplification cycle, by acting as a 'slicer-competent' piRNA endoribonuclease that cleaves primary piRNAs, which are then loaded onto 'slicer-incompetent' PIWIL4 (By similarity). PIWIL2 slicing produces a pre-miRNA intermediate, which is then processed in mature piRNAs, and as well as a 16 nucleotide by- product that is degraded (By similarity). Required for PIWIL4/MIWI2 nuclear localization and association with secondary piRNAs antisense (By similarity). Besides their function in transposable elements repression, piRNAs are probably involved in other processes during meiosis such as translation regulation (By similarity). Indirectly modulates expression of genes such as PDGFRB, SLC2A1, ITGA6, GJA7, THY1, CD9 and STRA8 (By similarity). When overexpressed, acts as an oncogene by inhibition of apoptosis and promotion of proliferation in tumors (PubMed:16377660). Represses circadian rhythms by promoting the stability and activity of core clock components BMAL1 and CLOCK by inhibiting GSK3B-mediated phosphorylation and ubiquitination-dependent degradation of these proteins (PubMed:28903391).
Cellular Location	Cytoplasm {ECO:0000250|UniProtKB:Q8CDG1}. Note=Present in chromatoid body. Probable component of the meiotic nuage, also named P granule, a germ-cell-specific organelle required to repress transposon activity during meiosis {ECO:0000250|UniProtKB:Q8CDG1}
Tissue Location	Expressed in adult testis and in most tumors.

Background

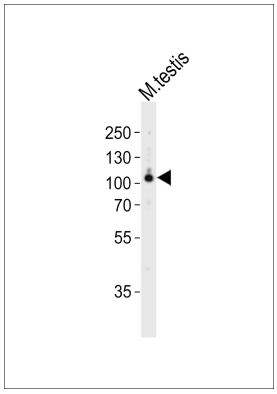
PIWIL2 belongs to the Argonaute family of proteins, which function in development and maintenance of germline stem cells (Sasaki et al., 2003 [PubMed 12906857]).

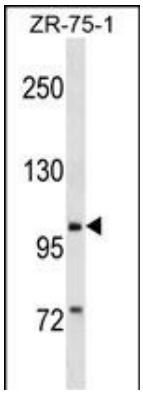
References

Lee, J.H., et al. Cancer Res. 70(11):4569-4579(2010)
Liu, J.J., et al. Int J Clin Exp Pathol 3(4):328-337(2010)
Nikpour, P., et al. Cancer Epidemiol 33 (3-4), 271-275 (2009) :
Lee, J.H., et al. Hum. Mol. Genet. 15(2):201-211(2006)
Kuramochi-Miyagawa, S., et al. Development 131(4):839-849(2004)

Images

Western blot analysis of lysate from mouse testis tissue lysate, using PIWIL2 Antibody (N-term)(Cat. #AP19056a). AP19056a was diluted at 1:500. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody. Lysate at 20ug.





PIWIL2 Antibody (N-term) (Cat. #AP19056a) western blot analysis in ZR-75-1 cell line lysates (35ug/lane).This demonstrates the PIWIL2 antibody detected the PIWIL2 protein (arrow).