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# PIWIL1 (PIWI) Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2731a

## Product Information

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| **Application** | WB, IHC-P, E |
| **Primary Accession** | Q96J94 |
| **Reactivity** | Human |
| **Predicted** | Mouse, Rat, Bovine, Canine, Rabbit, Chicken |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Clone Names** | RB13836 |
| **Calculated MW** | 98603 |
| **Antigen Region** | 172-202 |

## Additional Information

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| **Gene ID** | 9271 |
| **Other Names** | Piwi-like protein 1, PIWIL1, HIWI |
| **Target/Specificity** | This PIWI antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 172~202 amino acids from the N-terminal region of human PIWIL1. |
| **Dilution** | WB~~1:2000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS. |
| **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** | PIWIL1 (PIWI) Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | PIWIL1 |
| **Function** | Endoribonuclease that plays a central role in postnatal germ cells by repressing transposable elements and preventing their mobilization, which is essential for the germline integrity. Acts via the piRNA metabolic process, which mediates the repression of transposable elements during meiosis by |

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| | forming complexes composed of piRNAs and Piwi proteins and governs the methylation and subsequent repression of transposons. Directly binds methylated piRNAs, a class of 24 to 30 nucleotide RNAs that are generated by a Dicer-independent mechanism and are primarily derived from transposons and other repeated sequence elements. Strongly prefers a uridine in the first position of their guide (g1U preference, also named 1U-bias). Not involved in the piRNA amplification loop, also named ping-pong amplification cycle. Acts as an endoribonuclease that cleaves transposon messenger RNAs. Besides their function in transposable elements repression, piRNAs are probably involved in other processes during meiosis such as translation regulation. Probable component of some RISC complex, which mediates RNA cleavage and translational silencing. Also plays a role in the formation of chromatoid bodies and is required for some miRNAs stability. Required to sequester RNF8 in the cytoplasm until late spermatogenesis; RNF8 being released upon ubiquitination and degradation of PIWIL1. |
| **Cellular Location** | Cytoplasm {ECO:0000250\|UniProtKB:Q9JMB7}. Note=Component of the meiotic nuage, also named P granule, a germ-cell- specific organelle required to repress transposon activity during meiosis. Also present in chromatoid body {ECO:0000250\|UniProtKB:Q9JMB7} |
| **Tissue Location** | Expressed in spermatocytes and spermatids. Also detected in prostate cancer (at protein level). Detected in most fetal and adult tissues. Expressed in testes, specifically in germline cells; detected in spermatocytes and spermatids during spermatogenesis Increased expression in testicular tumors originating from embryonic germ cells with retention of germ cells phenotype. No expression in testicular tumors of somatic origin, such as Sertoli cell and Leydig cell tumors. Overexpressed in gastric cancer cells. Isoform 3: Ubiquitously expressed, and specifically in CD34(+) hematopoietic progenitor cells but not in more differentiated cells |

## Background

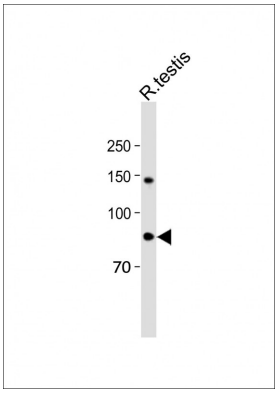
PIWIL1 is a member of the PIWI subfamily of Argonaute proteins, evolutionarily conserved proteins containing both PAZ and Piwi motifs that play important roles in stem cell self-renewal, RNA silencing, and translational regulation in diverse organisms. This protein may play a role as an intrinsic regulator of the self-renewal capacity of germline and hematopoietic stem cells.

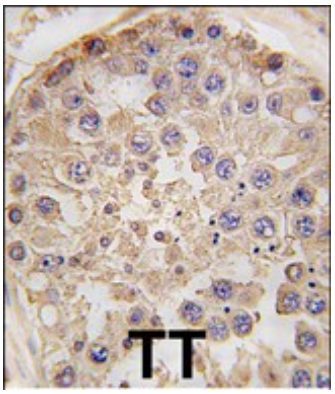
## References

Taubert,H., Oncogene 26 (7), 1098-1100 (2007)
Liu,X., Int. J. Cancer 118 (8), 1922-1929 (2006)
Qiao,D., Oncogene 21 (25), 3988-3999 (2002)

## Images

All lanes: Anti-PIWIL1 Antibody (N-term) at 1:2000 dilution + Rat testis lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 90 KDa Blocking/Dilution buffer: 5% NFDM/TBST.




Formalin-fixed and paraffin-embedded human testis tissue reacted with PIWIL1 antibody (N-term) (Cat.#AP2731c), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

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