

KD-Validated Anti-PIWIL1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody

Catalog # AGI1690

Product Information

Application	WB, FC
Primary Accession	Q96J94
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	24GB1545
Calculated MW	98603
Gene Name	PIWIL1
Aliases	Piwi Like RNA-Mediated Gene Silencing 1; HIWI; CT80.1; PIWI; Piwi-Like Protein 1; Piwi (Drosophila)-Like 1; Piwi-Like 1 (Drosophila); Piwi Homolog; EC 3.1.26.-; MIWI
Immunogen	A synthesized peptide derived from human PIWIL1

Additional Information

Gene ID	9271
Other Names	Piwi-like protein 1, 3.1.26.-, PIWIL1

Protein Information

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 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

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