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PIWIL4 antibody - N-terminal region
Rabbit Polyclonal Antibody
Catalog # AI13488

Specification

PIWIL4 antibody - N-terminal region - Product Information

Application	**WB**
Primary Accession	Q7Z3Z4
Other Accession	NM_152431, NP_689644
Reactivity	**Human**
Predicted	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**96 KDa**

PIWIL4 antibody - N-terminal region - Additional Information

Gene ID 143689

Alias Symbol **DKFZp686P01248, FLJ36156, HIWI2, MIWI2**
Other Names
Piwi-like protein 4, PIWIL4, HIWI2, PIWI

Format
Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.

Reconstitution & Storage
Add 50 ul of distilled water. Final anti-PIWIL4 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.

Precautions
PIWIL4 antibody - N-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

PIWIL4 antibody - N-terminal region - Protein Information

Name PIWIL4

Synonyms HIWI2, PIWI

Function
Plays a central role during spermatogenesis by repressing transposable elements and preventing their mobilization, which is essential for the germline integrity (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 governs the methylation and subsequent repression of transposons (By similarity). Directly binds 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 (By similarity). Associates with

secondary piRNAs antisense and PIWIL2/MILI is required for such association (By similarity). The piRNA process acts upstream of known mediators of DNA methylation (By similarity). Does not show endonuclease activity (By similarity). Plays a key role in the piRNA amplification loop, also named ping-pong amplification cycle, by acting as a 'slicer-incompetent' component that loads cleaved piRNAs from the 'slicer-competent' component PIWIL2 and target them on genomic transposon loci in the nucleus (By similarity). May be involved in the chromatin-modifying pathway by inducing 'Lys-9' methylation of histone H3 at some loci (PubMed:17544373). In addition to its role in germline, PIWIL4 also plays a role in the regulation of somatic cells activities. Plays a role in pancreatic beta cell function and insulin secretion (By similarity). Involved in maintaining cell morphology and functional integrity of retinal epithelial through Akt/GSK3alpha/beta signaling pathway (PubMed:28025795). When overexpressed, acts as an oncogene by inhibition of apoptosis and promotion of cells proliferation in tumors (PubMed:22483988).

Cellular Location
Nucleus. Cytoplasm Note=Probable component of the meiotic nuage, also named P granule, a germ-cell-specific organelle required to repress transposon activity during meiosis. PIWIL2/MILI is required for nuclear localization (By similarity). {ECO:0000250|UniProtKB:Q8CGT6}

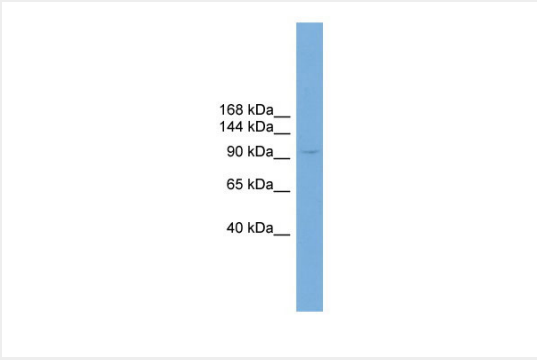
Tissue Location
Ubiquitously expressed (PubMed:25038252, PubMed:17544373, PubMed:28025795, PubMed:28711973, PubMed:22483988) Detected in retina, retinal pigment epithelia cells (RPE) (at protein level) (PubMed:28025795).

PIWIL4 antibody - N-terminal region - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PIWIL4 antibody - N-terminal region - Images



WB Suggested Anti-PIWIL4 Antibody Titration: 0.2-1 µg/ml
Positive Control: HT1080 cell lysate

PIWIL4 antibody - N-terminal region - References

Sasaki T.,et al.Genomics 82:323-330(2003).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Bechtel S.,et al.BMC Genomics 8:399-399(2007).
Sugimoto K.,et al.Biochem. Biophys. Res. Commun. 359:497-502(2007).