abcam

## Product datasheet

# Anti-PIWIL4/PIWI antibody ab180867

2 Abreviews 2 References 2 Images

### Overview

| | |
|---|---|
| **Product name** | Anti-PIWIL4/PIWI antibody |
| **Description** | Rabbit polyclonal to PIWIL4/PIWI |
| **Host species** | Rabbit |
| **Tested applications** | **Suitable for:** ICC/IF, WB |
| **Species reactivity** | **Reacts with:** Mouse, Human |
| **Immunogen** | Recombinant fragment within Human PIWIL4/PIWI aa 500-850. The exact immunogen sequence used to generate this antibody is proprietary information. If additional detail on the immunogen is needed to determine the suitability of the antibody for your needs, please **contact** our Scientific Support team to discuss your requirements.<br>Database link: **Q7Z3Z4** |
| **Positive control** | HeLa, 231 and 293T cell extracts. |
| **General notes** | The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.<br>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As |

### Properties

| | |
|---|---|
| **Form** | Liquid |
| **Storage instructions** | Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle. |
| **Storage buffer** | pH: 7.30<br>Preservative: 0.02% Sodium azide<br>Constituents: 50% Glycerol, 49% PBS |
| **Purity** | Immunogen affinity purified |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab180867 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

| Application | Abreviews | Notes |
|---|---|---|
| **ICC/IF** | ★★★☆☆ (1) | Use at an assay dependent concentration. |
| **WB** | | 1/500 - 1/2000. Predicted molecular weight: 97 kDa.<br>Fresh tissue samples is needed. |

## Target

**Function** Plays a central role during spermatogenesis by repressing transposable elements and prevent 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 govern the methylation and subsequent repression of transposons. 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. Associates with secondary piRNAs antisense and PIWIL2/MILI is required for such association. The piRNA process acts upstream of known mediators of DNA methylation. Participates to a piRNA amplification loop. Besides their function in transposable elements repression, piRNAs are probably involved in other processes during meiosis such as translation regulation (By similarity). May be involved in the chromatin-modifying pathway by inducing 'Lys-9' methylation of histone H3 at some loci.

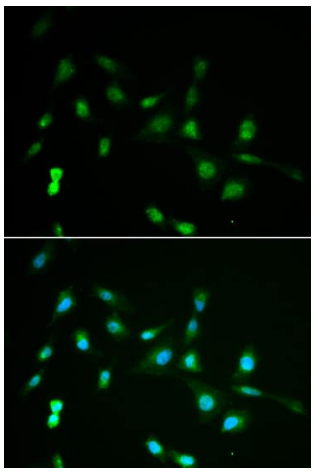
**Tissue specificity** Expressed in testis. According to PubMed:17544373, it is ubiquitously expressed.

**Sequence similarities** Belongs to the argonaute family. Piwi subfamily.
Contains 1 PAZ domain.
Contains 1 Piwi domain.

**Post-translational modifications** Arginine methylation by PRMT5 is required for the interaction with Tudor domain-containing protein (TDRD1, TDRKH/TDRD2 and TDRD9) and subsequent localization to the meiotic nuage, also named P granule.

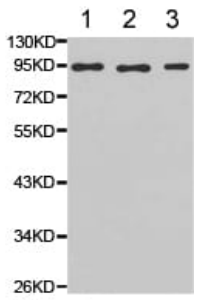
**Cellular localization** Nucleus. Cytoplasm. Probable component of the meiotic nuage, also named P granule, a germ-cell-specific organelle required to repress transposon during meiosis. PIWIL2/MILI is required for nuclear localization.

## Images



Immunocytochemistry/ Immunofluorescence - Anti-PIWIL4/PIWI antibody (ab180867)

Immunocytochemistry/Immunofluorescence analysis of A549 cells using ab180867. Blue DAPI for nuclear staining.




Western blot - Anti-PIWIL4/PIWI antibody (ab180867)

**All lanes :** Anti-PIWIL4/PIWI antibody (ab180867) at 1/500 dilution

**Lane 1 :** HeLa cell extract
**Lane 2 :** 231 cell extract
**Lane 3 :** 293T cell extract

**Predicted band size:** 97 kDa



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