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Product Information

Anti-PIWIL4
produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200429**

Product Description

Anti-PIWIL4 is produced in rabbit using as immunogen a peptide corresponding to an internal region of human PIWIL4 (GeneID: 143689**),** conjugated to KLH. The corresponding sequence differs by a single amino acid in mouse and rat. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-PIWIL4 recognizes human PIWIL4. The antibody may be used in various immunochemical techniques including immunoblotting (~95 kDa). Detection of the PIWIL4 band by immunoblotting is specifically inhibited by the immunizing peptide.

The Argonaute proteins are evolutionarily conserved between species and have been implicated in both transcriptional and post-transcriptional gene silencing. Many organisms encode multiple members of the family, which can be subdivided into the Ago subfamily (EIF2C1/hAGO1, EIF2C2/hAGO2, EIF2C3/hAGO3, and EIF2C4/hAGO4) and the Piwi subfamily (PIWIL1/HIWI, PIWIL2/HILI, PIWIL3, and PIWIL4/HIWI2). The expression of Piwi proteins is restricted mostly to the germ line, where they bind piRNAs, whereas Ago proteins, which are ubiquitously expressed, bind to siRNAs or miRNAs. Both subfamilies share two main structural features, the PAZ domain and the PIWI domain. Piwi proteins and piRNAs have been implicated in epigenetic control of gene expression, transposon silencing, gene expression and translation regulation.[1-3]

Piwi proteins play crucial roles during germline development and gametogenesis of many metazoan species.[3] They undergo symmetrical dimethyl arginines (sDMAs) modification by PMRT5. This modification serves as a binding site for Tuds proteins that are necessary for gametogenesis in both flies and mice.[4]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 0.5-1.0 μg/mL is recommended using lysates of HEK-293Tcells over-expressing human PIWIL4.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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3. Thomson, T., and Lin, H., *Annu. Rev. Cell Dev. Biol*., **25**, 355-376 (2009).
4. Vagin, V.V., et al., *Cell Cycle*, **8**, 4003-4004 (2009).

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