

Product Information

Anti-PIWL1 Antibody, Mouse Monoclonal

Clone PIWIL1-6, Purified from Hybridoma Cell Culture

SAB4200364

Product Description

Monoclonal Anti-PIWIL1 (mouse IgG1 isotype) is derived from the hybridoma PIWIL1-6 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to an internal region of human PIWIL1 (GeneID: 9271), conjugated to KLH. The corresponding sequence is identical in mouse PIWIL1. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents (Cat. No. ISO2). The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-PIWIL1 recognizes human and mouse PIWIL1. The antibody may be used in various immunochemical techniques including immunoblotting (~ 95 kDa) and immunohistochemistry. Detection of the PIWIL1 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 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 Tud 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.

Antibody Concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the 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 at -20 °C 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 dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting

A working concentration of 2.5-5.0 µg/mL is recommended using whole extracts of mouse testis or HEK-293T cells over-expressing PIWIL1.

Immunohistochemistry

A working concentration of 10-20 µg/mL is recommended using heat-retrieved formalin-fixed, paraffin-embedded mouse testis and biotin/ExtrAvidin®-Peroxidase staining system.

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

References

1. Hock, J., and Meister, G., *Genome Biol.*, **9**: 210 (2008).
2. Hutvagner, G., and Simard, M.J., *Nat. Rev. Mol. Cell. Biol.*, **9**: 22-32 (2008).
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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