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Product Information

Anti-PIWIL1 (internal region)
produced in rabbit, affinity isolated antibody

Product Number **SAB4200110**

Product Description

Anti-PIWIL1 (internal region) is produced in rabbit using as the immunogen a synthetic peptide corresponding to a sequence of human PIWIL1 (Gene ID: 9271) conjugated to KLH. The corresponding sequence is identical in mouse. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-PIWIL1 (internal region) recognizes human, mouse, and rat 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 with 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] PIWI proteins 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.

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

Store at –20 °C. 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. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1-2 μg/mL is recommended using rat and mouse testis extracts.

Immunohistochemistry: a working concentration of 10-20 μg/mL is recommended using heat-retrieved formalin-fixed, paraffin-embedded human colon carcinoma sections and biotin/ExtrAvidin®-Peroxidase staining system.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine 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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