

Product Information

Anti-Dicer

produced in rabbit, affinity isolated antibody

Product Number **SAB4200087**

Product Description

Anti-Dicer is produced in rabbit using as the immunogen a synthetic peptide corresponding to a fragment of human Dicer (Gene ID: 23405) conjugated to KLH. The corresponding sequence is identical in mouse. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Dicer recognizes human Dicer. The antibody may be used in several immunochemical techniques including immunoblotting (~218 kDa), immuno-precipitation, and immunofluorescence. Detection of the Dicer band by immunoblotting is specifically inhibited with the immunizing peptide.

Dicer, also known as Dicer1, Endoribonuclease Dicer, Helicase with RNase motif, and HERN1, is a member of the RNase III family that catalyzes the first step in the RNA interference (RNAi) pathway and initiates formation of the RNA-induced silencing complex (RISC). Dicer processes the dsRNA into small fragments called short interfering RNA (siRNA) or microRNA (miRNA) of typically 21-25 nucleotides long with a two-base overhang on the 3'. It helps to load these fragments into the RISC complex, which guides the sequence-specific silencing of mRNAs that contain complementary sequences by either enzymatically cleaving the mRNA or repressing its translation.

Dicer contains a N-terminal DEXH-box RNA helicase/ATPase domain, followed by a domain of unknown function (DUF283), a PAZ domain, which anchors the 3'-end of the guided siRNA, two RNase III domains, and a dsRBD. The current model for dsRNA cleavage by Dicer predicts that the two ribonuclease III domains of Dicer dimerize to form the catalytic center that is responsible for cleaving long dsRNA in co-operation with two RNA binding domains, PAZ and dsRNA-binding domain.¹⁻³

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 at -20 °C. 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 3-6 µg/mL is recommended using HeLa cell lysates.

Immunoprecipitation: a working antibody amount of 2.5-5 µg is recommended using HeLa cell lysates.

Immunofluorescence: a working antibody concentration of 2-5 µg/mL is recommended using paraformaldehyde fixed HeLa cells.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

1. Meister, G., and Tuschl, T., *Nature*, **431**, 343-349 (2004).
2. Tomari, Y., and Zamore, P.D., *Genes Dev.*, **19**, 517-529 (2005).
3. Siomi, H., and Siomi, M.C., *Nature*, **457**, 396-404 (2009).

VS,SG,TK,TD,KAA,PHC,MAM 05/19-1