

# Product Information

## Monoclonal Anti-DICER1, Clone DCR1

produced in mouse, purified immunoglobulin

Product Number **D0571**

### Product Description

Monoclonal Anti-DICER1 (mouse IgG1 isotype) is derived from the hybridoma DCR1 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a fusion protein corresponding to a fragment of human DICER1 (GenID: 23405). The corresponding sequence is identical in mouse, rat, dog, bovine, and monkey. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2. The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-DICER1 recognizes human, rat, and mouse DICER1. The antibody may be used in several immunological techniques including immunoblotting (~218 kDa).

Dicer 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 an 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.<sup>1-3</sup>

### 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

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, the product may be stored 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 antibody concentration of 2.5-5.0 µg/mL is recommended using a whole extract of human HEK-293T 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,ST,TD,KAA,PHC,MAM 04/19-1