



Figure 4. tasiRNA biogenesis and function. Specific miRNAs, associated with AGO1 or AGO7, target and cleave the transcripts of TAS gene loci, ultimately giving rise to tasiRNAs. In the case of AGO1, initiating miRNAs that are 22 nt in length induce the recruitment of the RNA-dependent RNA polymerase, RDR6 (and its partner SGS3), to the 3' cleaved fragment resulting in transcription of the complementary strand to generate dsRNA. Dicing by DCL4, aided by the dsRNA-binding protein, DRB4, results in the production of 21-nt tasiRNAs that are phased with respect to the miRNA-cleaved end. These tasiRNAs, in turn, target specific complementary RNAs in association with AGO1, thus behaving like target-specific miRNAs.