



Figure 1.1. MicroRNA biosynthesis. The maturation of microRNA is mediated by the two RNase III endonucleases Dicer and Dorsha. In the first step, the microprocessor complex composed of Dorsha and DGCR8 mediates the nuclear processing of the primary-microRNAs (pri-miRNA). The nuclear export of the precursors is subsequently mediated by the exportin-5. In the second step, the pri-miRNA is cleaved in the cytoplasm by Dicer into mature ~22 nucleotide microRNA, which incorporates as a single-stranded RNA into RNA-induced silencing complex (RISC).