Supplementary Material

Title: TRBP alters human precursor microRNA processing rates and product length *in vitro*

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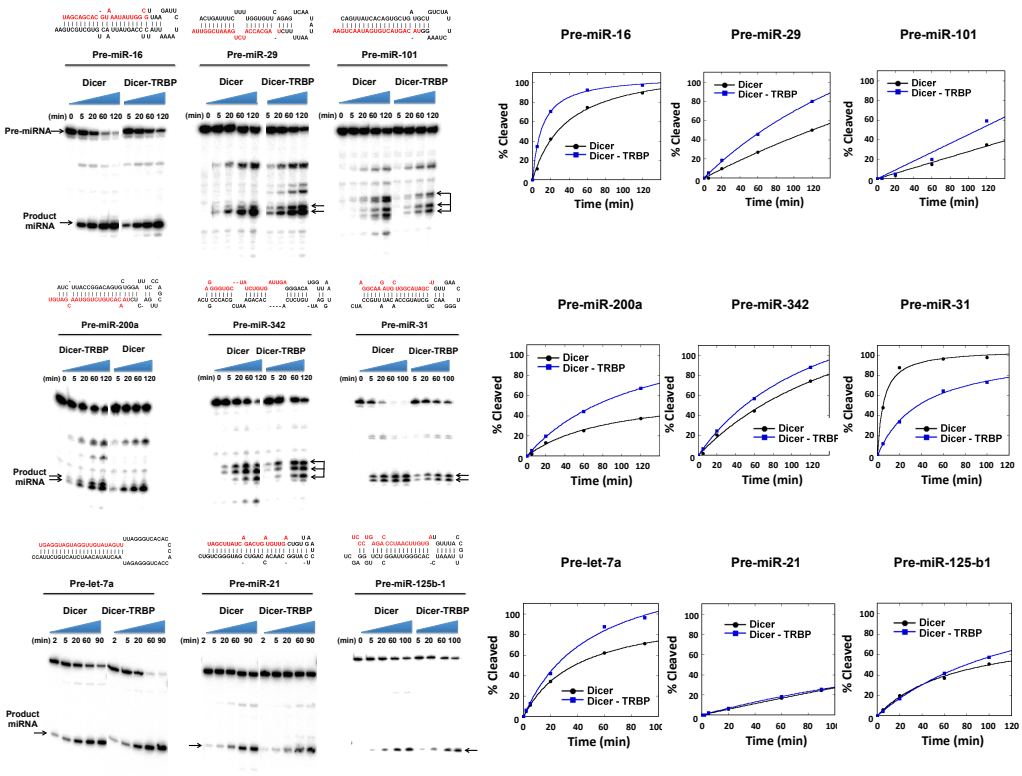

Fig. S1. Natural pre-miR substrate processing by Dicer and Dicer-TRBP complex

Pre-miR-16, pre-miR-29, pre-miR-101, pre-miR-200a, pre-miR-342, pre-miR-31, pre-let-7a, pre-miR-21 and pre-miR-125b-1 processing by Dicer and Dicer-TRBP complex in multiple turnover condition. (Red colored sequence shows the canonical miRNA sequence reported in miRBase.)

[Dicer], [Dicer-TRBP] = 5 nM, [RNA] = 50 nM (5' end labelled) in 20 mM Tris–HCl (pH 6.5), 1.5 mM $MgCl_2$, 25 mM NaCl, 1 mM dithiothreitol and 1% glycerol. Each time point sample was prepared by quenching with 1.2 volumes of loading buffer (95% formamide, 18 mM ethylenediaminetetraacetic acid, 0.025% SDS, 0.1% xylene cyanol, and 0.1% bromophenol blue). Samples were heated at 70°C for 10 min before loading to 12-15% denaturing 7M urea polyacrylamide gel electrophoresis. The gel was dried and the amount of substrates and products was quantified with a phosphorimager (GE Healthcare) using ImageQuant TL software.

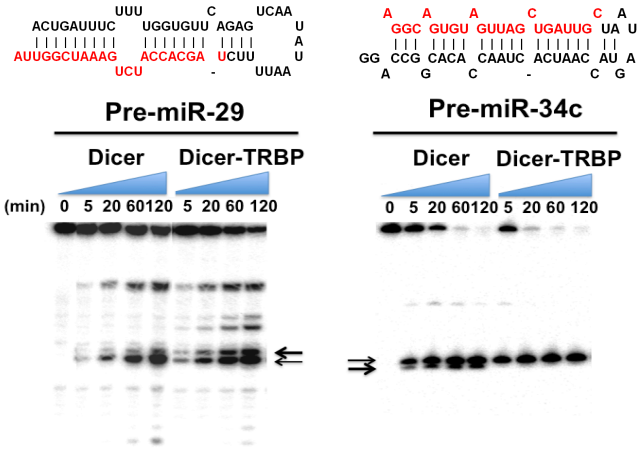

Fig. S2. Dicer-TRBP complex enriches 1 nt longer isomiRs when processing pre-miR-29 and pre-miR-34c

[Dicer] or [Dicer-TRBP] = 5 nM, [RNA] = 50 nM in 20 mM Tris– HCl (pH 6.5), 1.5 mM $MgCl_2$, 25 mM NaCl, 1 mM dithiothreitol and 1% glycerol

The procedures were as same as Fig.S1. Thick arrows indicate isomiRs.