

**Table S1. Data Collection and Refinement Statistics, Related to Figure 1**

	<b>hAgo1-endoRNA</b>	<b>hAgo1-let-7</b>
<b>Data Collection</b>		
Space group	<i>P2<sub>1</sub></i>	<i>P2<sub>1</sub></i>
Cell dimensions		
<i>a, b, c</i> (Å)	70.47, 98.63, 73.21	70.39, 97.73, 72.7
$\alpha, \beta, \gamma$ (°)	90.0, 110.96, 90.0	90.0, 110.89, 90.0
Wavelength (Å)	1.075	1.075
Resolution (Å) <sup>a</sup>	50.0-1.75 (1.8-1.75)	50.0-2.1 (2.16-2.1)
<i>R</i> merge (%)	5.5 (42.2)	4.1 (32.0)
<i>I</i> / $\sigma$ ( <i>I</i> )	12.63 (2.55)	16.9 (2.88)
Completeness (%)	98.08 (88.12)	94.41 (66.83)
Redundancy	3.1 (2.2)	3.0 (1.7)
<b>Refinement</b>		
Resolution (Å)	32.9-1.75	40.56-2.1
No. reflections	91605	50618
<i>R</i> work / <i>R</i> free (%)	17.2/20.2	17.4/21.7
No. atoms (non-hydrogen)	7179	7204
Protein	6475	6580
RNA	234	257
Water	470	367
< <i>B</i> -factors> (Å <sup>2</sup> )		
Protein	30.0	37.77
RNA	45.7	41.1
Water	33.0	35.19
r.m.s. deviations		
Bond lengths (Å)	0.007	0.009
Bond angles (°)	1.070	1.164
<b>MolProbity Statistics</b>		
All atom clashscore	1.2	2.63
Poor rotamers (%)	0.42	0.28
Ramachandran Outliers (%)	0	0.25
Ramachandran Favored (%)	98.48	97.4
MolProbity score	0.84	1.17