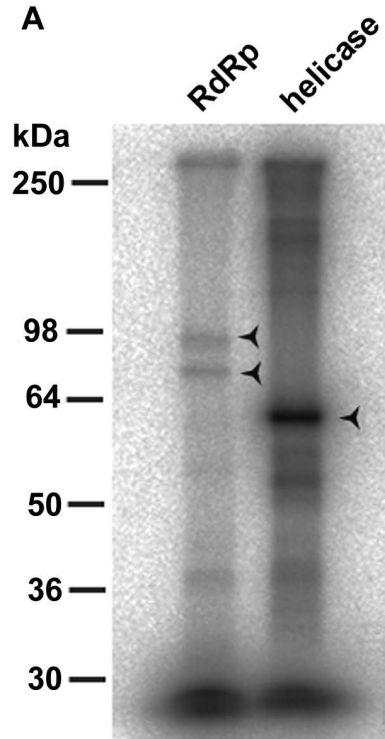


Figure S1

A



B

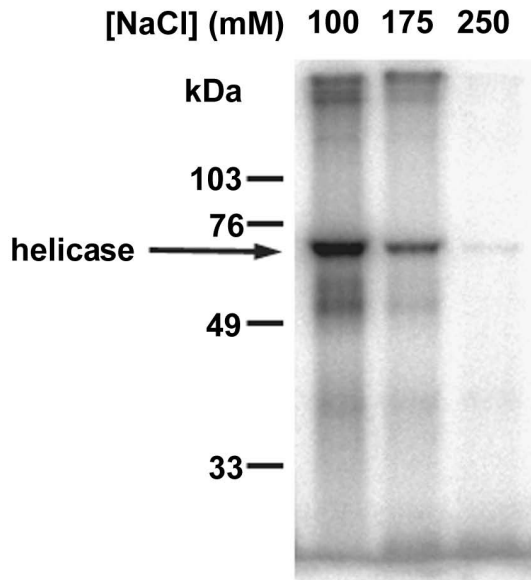


Fig. S1 UV cross-linking assay of the purified proteins with Ba-77 RNA probe. (A)

The same amount of purified GST fused RdRp (indicated as RdRp) and helicase-like domain (indicated as helicase) shown above each lane was UV cross-linked with ³²P-labeled -77 RNA (190 fmole). After treatment with RNase A, the labeled proteins were resolved on a 12% SDS- polyacrylamide gel and analyzed using a phosphorimager. The arrows indicate the position of cross-linked proteins.

Besides the full-length GST-fusion RdRp protein, the degradation product of lower molecular weight was also linked. (B) The optimization for the UV cross-linking reaction with various salt concentrations indicated above each lane was examined.

The condition we have used in the rest of UV cross-linking experiment is using 175 mM NaCl which is shows less background.

Table S1 The binding activity of the *E. coli*-expressed helicase-like domain of

BaMV replicase with Ba-77 probe and competitors.

Competitor	polyIC	polyA	polyG	polyU	polyC
0X	100	100	100	100	100
1X	27.2±4.9	83.2±6.2	75.4±17.8	64.6±21.9	93.9±3.6
5X	8.3±4.3	42.6±12.6	72.9±12.5	65.6±15.2	80.4±4.4
10X	2.6±3.6	28.0±6.1	60.2±13.2	50.3±9.5	78.7±8.1

100X	0.1±0.1	18.9±4.1	25.9±13.9	40.4±13.1	72.5±10.1
Competitor	Ba-39	Ba-77/△31	Ba-77	yeast tRNA	
0X	100	100	100	100	
1X	98.5±11.2	79.3±14.5	85.5±12.4	72.5±12.8	
5X	86.7±3.2	61.2±4.8	32.8±2.4	28.0±2.2	
10X	74.2±6.3	47.2±2.8	16.6±8.6	8.3±0.9	
100X	34.9±5.2	19.6±1.3	3.7±0.5	1.7±0.9	
Competitor	Ba-77	Ba-77/LM	Ba-77/LR	Ba-77/UM	Ba-77/UR
0X	100	100	100	100	100
1X	73.6±8.3	96.3±5.3	107.5±5.5	96.0±10.4	90.2±5.1
5X	40.8±3.4	81.0±10.1	96.1±4.7	59.9±3.9	52.4±8.6
10X	21.5±3.4	68.9±12.9	89.2±8.6	34.4±3.1	27.0±3.6
20X	12.6±4.9	61.9±6.5	81.9±4.6	14.6±3.9	12.7±3.2

The banding density of helicase-like domain of replicase crosslinked with Ba-77

probe without any competitor is set for 100.

All data are the average (\pm standard deviation) of at least three independent

experiments