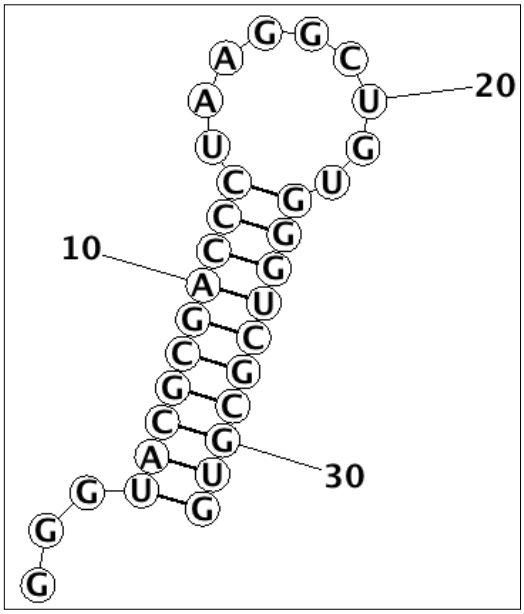
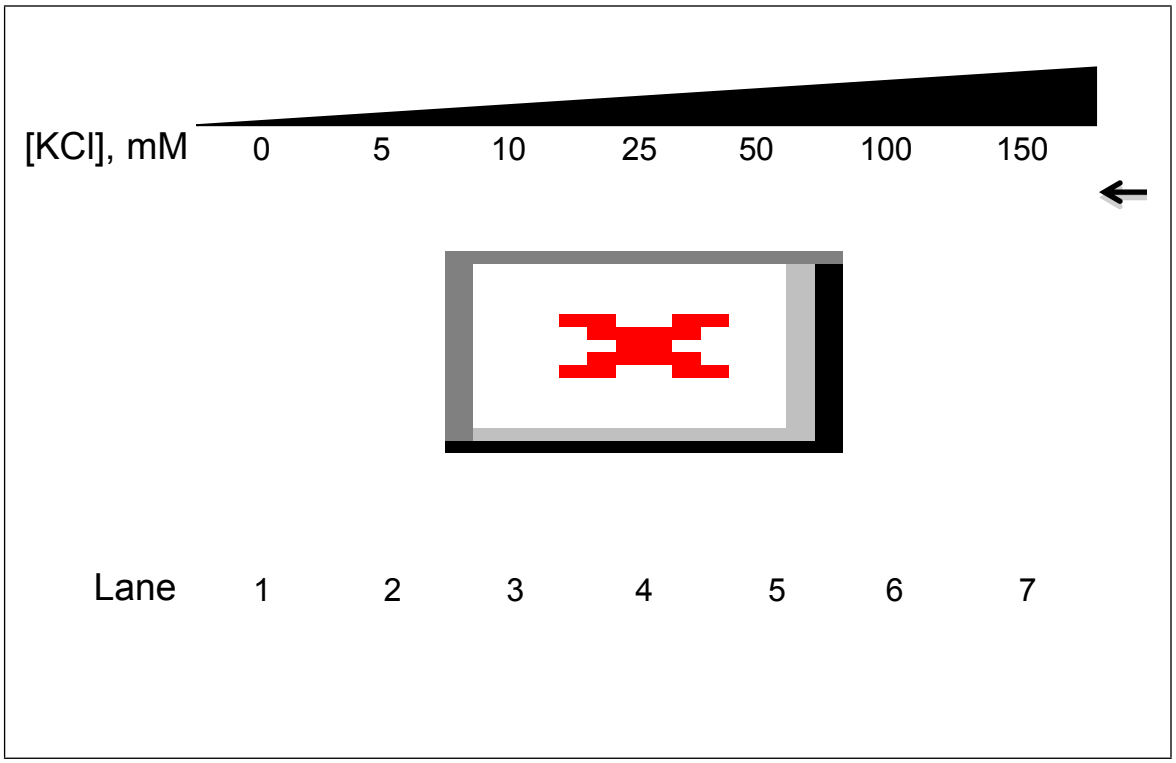
Electronic Supplementary Material (ESI) for Molecular BioSystems.

Supplemental figure 1.



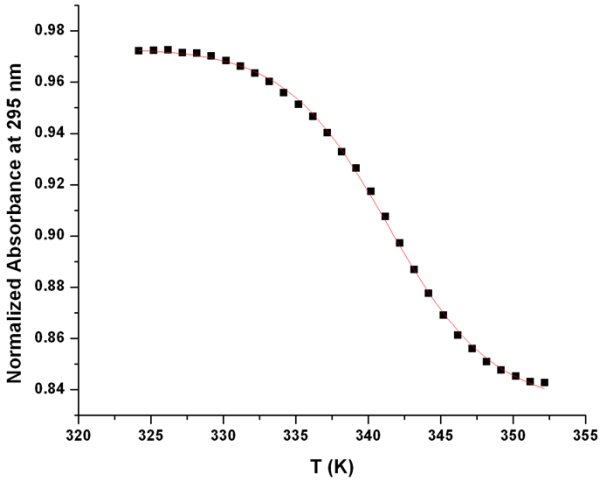
Predicted secondary structure for the mutant NR2B mRNA by using the RNA Structure software (D. H. Mathews, Using an RNA secondary structure partition function to determine confidence in base pairs predicted by free energy minimization, *RNA*, 2004, 10, 1178–1190)

Supplemental figure 2.



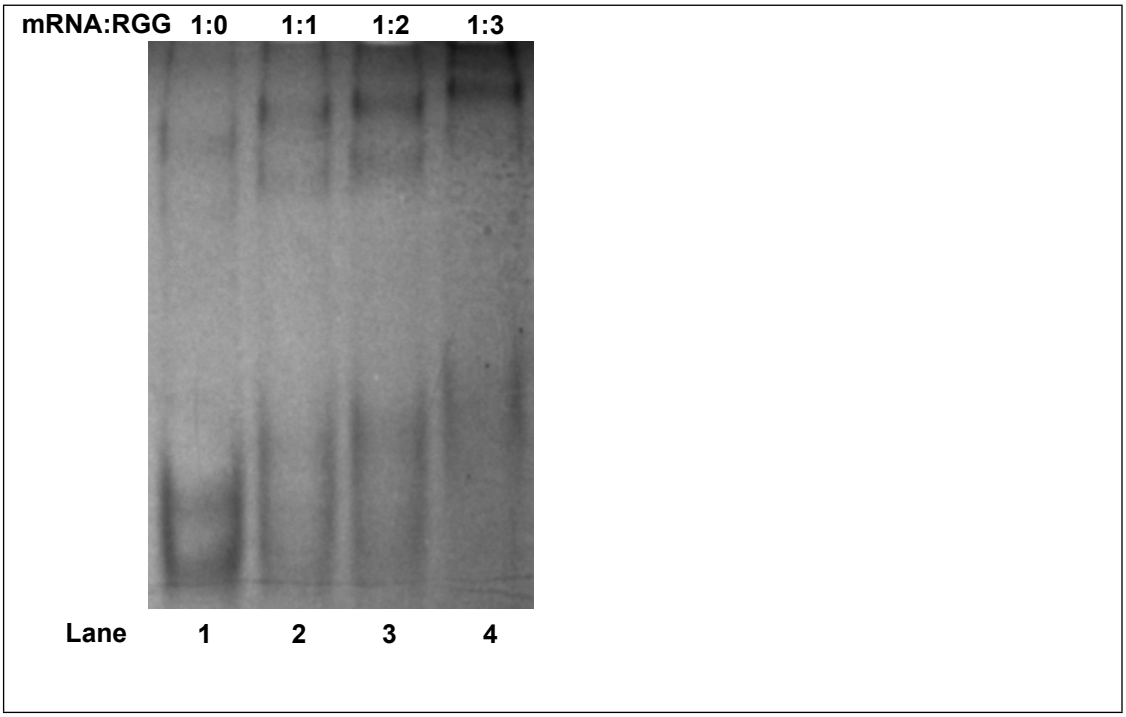
20% non-denaturing polyacrylamide gel of NR2B mRNA in 0.5 X TBE buffer in the presence of increasing salt concentrations. Lane 1: 10 μM NR2B mRNA no salt; Lanes 2–7: 5–150 mM KCl concentrations. The RNA samples were annealed by boiling for 5 minutes in the presence of salt and then incubated at room temperature for 10 minutes. The gels were visualized by UV shadowing at 254 nm.

Supplemental figure 3.



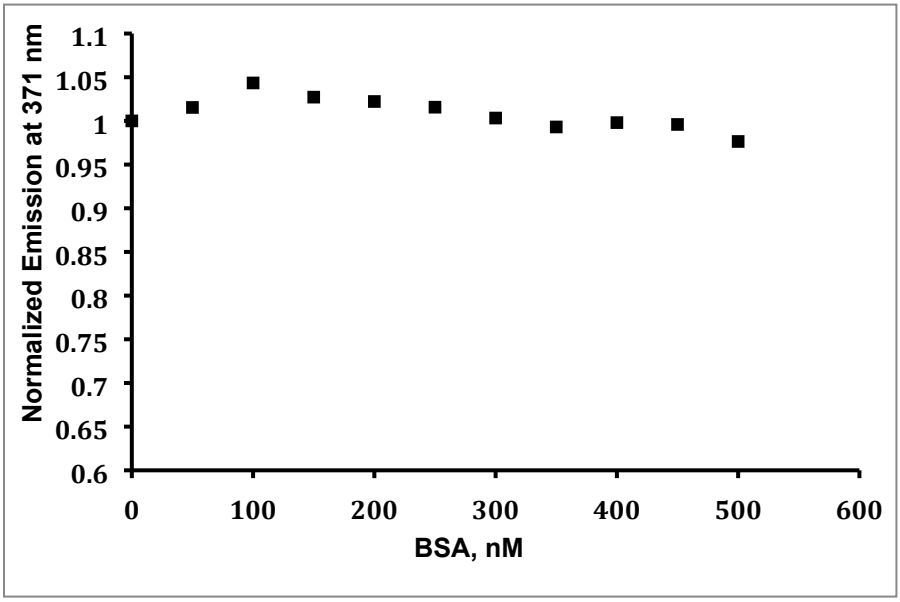
Fit of the main hypochromic transition present in the UV thermal denaturation profile of the NR2B mRNA with equation 3 (materials and methods) from which the following thermodynamic parameters were determined: ΔH^0 =-64.6±0.1 kcal/mol, ΔS^0 =-189.2±0.2 cal/mol K and ΔG^0 =-8.2±0.1 kcal/mol.

Supplemental figure 4.



20% non-denaturing polyacrylamide gel of NR2B mRNA in 0.5 X TBE buffer in 150 mM KCl, in the presence of increasing ratios of the FMRP RGG box. Lane 1: 10 μM NR2B mRNA; Lanes 2–4: NR2B mRNA: FMRP RGG box ratios of 1:1, 1:2 and 1:3. The RNA samples were annealed by boiling for 5 minutes in the presence of 150 mM KCl, incubated at room temperature for 10 minutes, followed by incubation with the FMRP RGG box for an additional 20 minutes. The gels were visualized by UV shadowing at 254 nm.

Supplemental figure 5.



Fluorescence spectroscopy experiments in which BSA was titrated into a fixed concentration (200 nM) of NR2B 2AP mRNA in 10 mM cacodylic acid pH 6.5, 150 mM KCl.