



**Supplementary Figure 1.** Screening round 7 clones by nitrocellulose filter binding assays. Each labeled RNA was incubated with buffer (lane 1), 500 nM tFKBP\*3R (lane 2) or varying concentrations of tFKBP\*3R-2G complex (lanes 3-6), and the resulting solution was applied to the filter. Boxed sequences display small molecule-enhanced binding. Specifically, these sequences show at least a two-fold greater signal at 5  $\mu$ M tFKBP\*3R-2G over background and at least a 2.5-fold greater signal at 5  $\mu$ M tFKBP\*3R-2G over protein alone in at least one of duplicate measurements. Sequences in red have an average  $K_d$  (duplicate measurement) below 50 nM (see Supplementary Table 1).