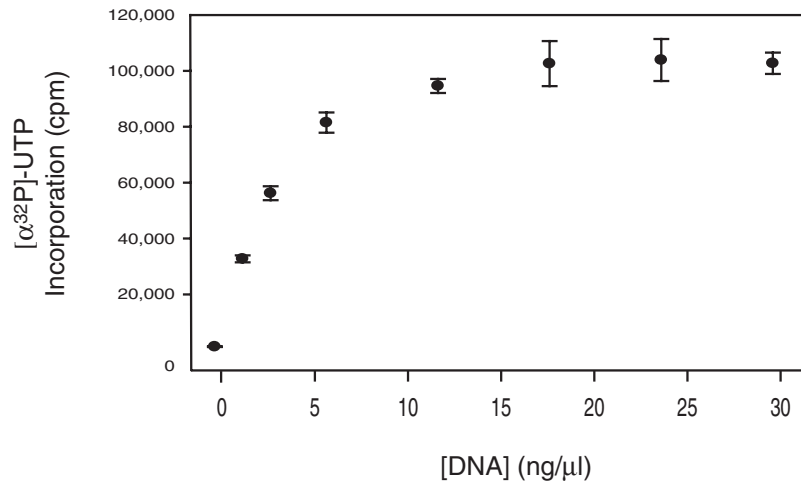
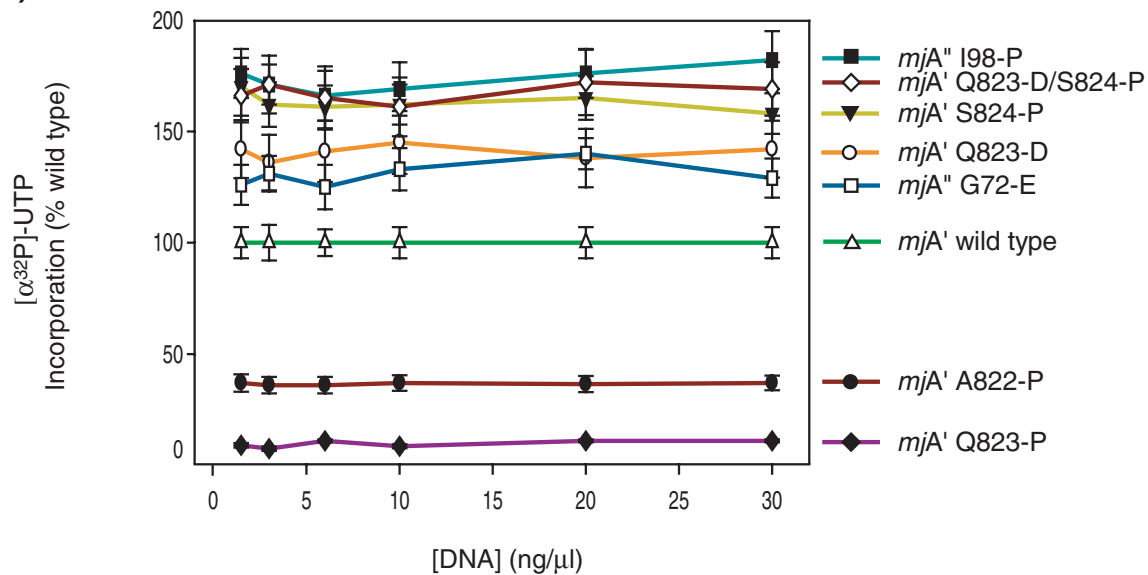


(a)



(b)



Additional Data File 19. Activities of wild-type and mutant *mJRNAPs* at limiting and saturating template DNA concentrations

(a) Transcriptional activity of wild-type *mJRNAP* in TCA-precipitation assays carried out in the presence of different template DNA concentrations at a fixed enzyme concentration. Template DNA concentrations below about 15 ng/μl become rate-limiting during the 30 minute incubation period.

(b) Results of TCA-precipitation assays carried out at limiting (1.5 ng/μl, 3 ng/μl, 6 ng/μl and 10 ng/μl) and saturating (20 ng/μl and 30 ng/μl) template DNA concentrations in the presence of constant amounts of RNAPs containing wild-type or mutant *mJA'* subunits. The activities of the various mutants (identified by the color code on the right) remain constant relative to the wild-type enzyme under subsaturating and saturating DNA concentrations, showing that the results reflect genuine differences in specific activity. The thermostabilities of the mutant enzymes are identical to that of wild-type *mJRNAP* (half-life of 57 ± 5 minutes at 70°C; ROJW, unpublished observations).