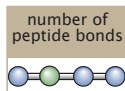
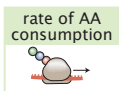
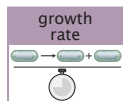


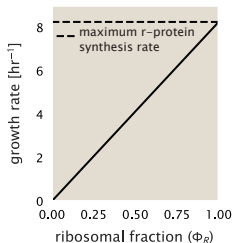
(A)

## translation-limited growth rate



$$\lambda = \frac{R \times r_t \times f_a}{N_{\text{pep}}}$$

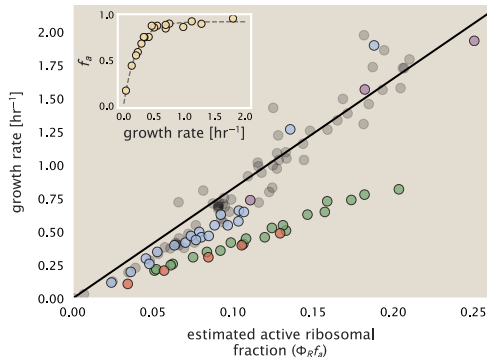
$$\approx \frac{r_t}{L_R} \times \Phi_R \times f_a$$



$$r_t = 17 \text{ aa/s}$$

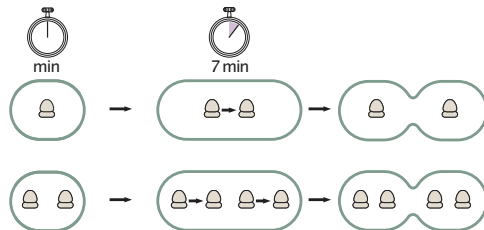
$$L_R = 7,459 \text{ aa}$$

$$f_a = 1$$



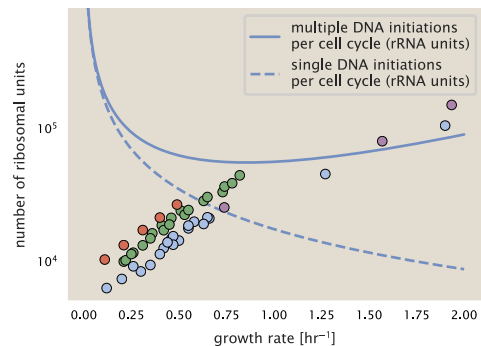
(B)

## maximum growth rate is set by ribosome synthesis



(C)

## limitations on rRNA synthesis



● Li et al. 2014    ● Schmidt et al. 2016    ● non-proteomic data from literature  
 ● Peebo et al. 2015    ● Valgepea et al. 2013