

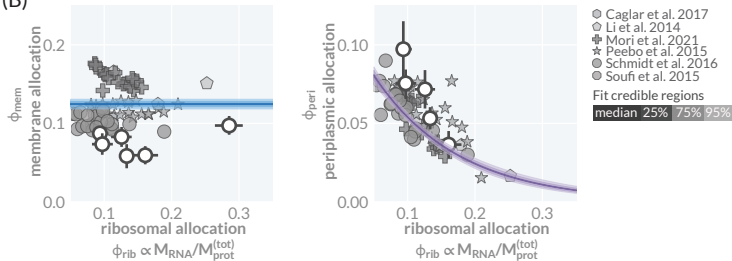
# (A) density maintenance scaling theory

$$\frac{S_A}{V} = \frac{\text{membrane protein allocation} \cdot |\phi_{mem} \kappa| \text{ density ratio}}{2 \left[ 1 + \frac{M_{RNA}}{M_{prot}^{(tot)}} - \phi_{mem} - \frac{\phi_{peri}}{\text{periplasmic protein allocation}} \right]}$$

surface-to-volume ratio

RNA-to-protein ratio

(B)



(C)

