

$$e = f_E (1 - a)$$

$$r = f_R (1 - a)$$

$$q = f_Q (1 - a)$$

$$x = f_X (1 - a)$$

Protein sector concentration
 =
 sector allocation fraction
 X
 total protein concentration

$$kf_E(1 - a) = \sigma \left[f_R - \frac{r_i}{1 - a} \right] \frac{a}{a + a_{sat}}$$

Balance between
 precursor synthesis and protein synthesis

$$V_{div} = \frac{X_{div}}{f_X(1 - a)}$$

Size at division
 =
 X division threshold
 /
 X concentration