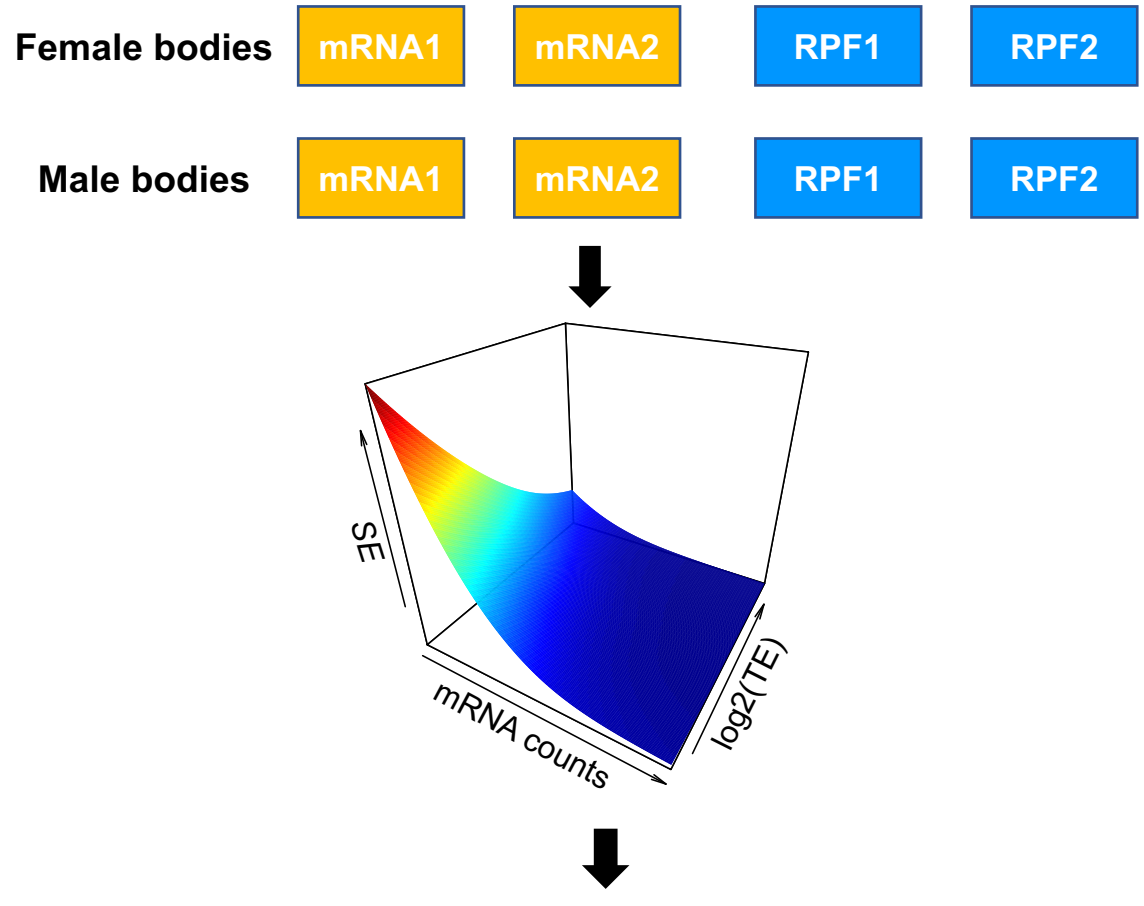
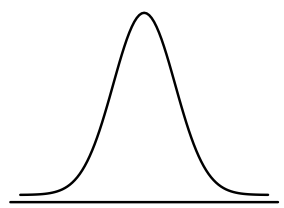
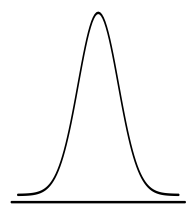


Sample 1

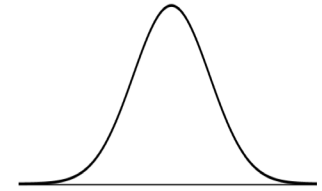
$$TE_{uORF,1} = \frac{RPF_{uORF,1}}{mRNA_{uORF,1}} \qquad TE_{CDS,1} = \frac{RPF_{CDS,1}}{mRNA_{CDS,1}}$$



$$log_2(TE_{uORF,1}) \pm SE_{log_2(TE_{uORF,1})}$$



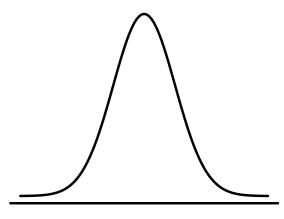
$$log_2(TE_{CDS,1}) \pm SE_{log_2(TE_{CDS,1})}$$



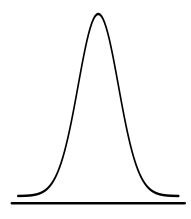
$$\gamma = \frac{TE_{CDS,2}}{TE_{CDS,1}} / \frac{TE_{uORF,2}}{TE_{uORF,1}}$$

Sample 2

$$TE_{uORF,2} = \frac{RPF_{uORF,2}}{mRNA_{uORF,2}} \qquad TE_{CDS,2} = \frac{RPF_{CDS,2}}{mRNA_{CDS,2}}$$



$$log_2(TE_{uORF,2}) \pm SE_{log_2(TE_{uORF,2})}$$



$$log_2(TE_{CDS,2}) \pm SE_{log_2(TE_{CDS,2})}$$

$$SE_{log_2(\gamma)} = \sqrt{SE^2_{log_2(TE_{uORF,1})} + SE^2_{log_2(TE_{CDS,1})} + SE^2_{log_2(TE_{uORF,2})} + SE^2_{log_2(TE_{CDS,2})}}$$

$$P(\gamma \neq 1) = 2 \cdot \left(1 - \Phi\left(\left|\frac{log_2(\gamma)}{SE_{log_2(\gamma)}}\right|\right)\right)$$

$TE_{uORF,1} = \frac{40}{100} = 0.4$ $TE_{CDS,1} = \frac{800}{1000} = 0.8$

$TE_{uORF,2} = \frac{240}{120} = 2$ $TE_{CDS,2} = \frac{1500}{1200} = 1.25$

$SE_{log_2(TE_{uORF,1})} = 0.382$ $SE_{log_2(TE_{CDS,1})} = 0.164$

$SE_{log_2(TE_{uORF,2})} = 0.255$ $SE_{log_2(TE_{CDS,2})} = 0.156$

$\gamma = 0.31$

$SE_{log_2(\gamma)} = 0.51$

$P(\gamma \neq 1) = 0.001$