

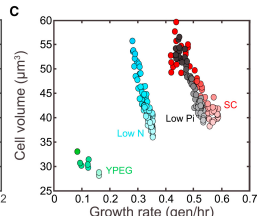
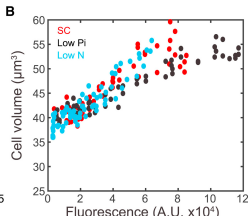
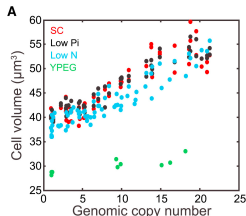
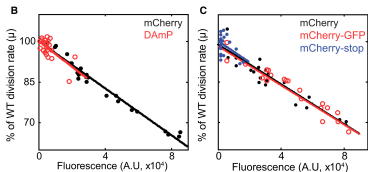
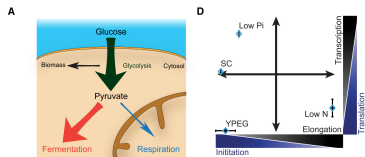
Cours 6-Métabolisme et croissance des cellules

J.F. Joanny

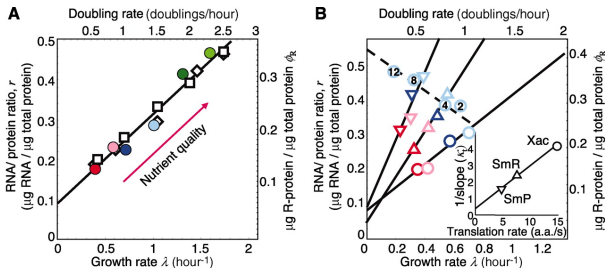
Cours 6, Collège de France, 11 mars 2024

Coût énergétique de la production d'une protéine

- La production de protéines exogènes diminue le taux de croissance
- Le mécanisme limitant dépend du milieu ambiant
- La cellule réagit en augmentant son volume
- Le mécanisme limitant n'est pas toujours la production de ribosomes

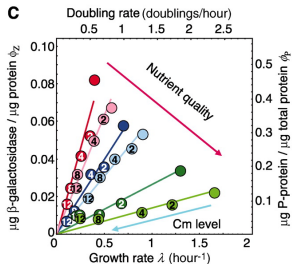
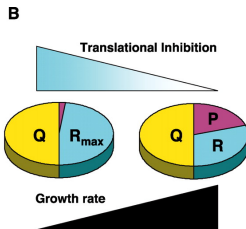
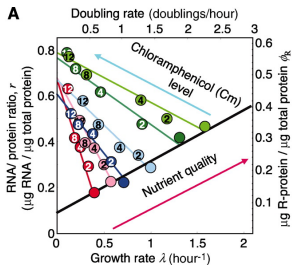


Taux de croissance et qualité des nutriments *Scott et al.*

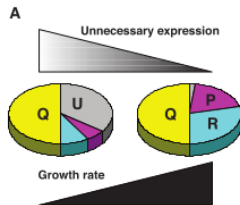


Strain Medium	Strain					Xac in cAA+glc Cm conc. (μM)	
	EQ2	Xac	SmR	SmP			
M63+glyc	●	○	△	▽	2	2	②
M63+gluc	●	○	△	▽	4	4	④
cAA+glyc	●	○	△	▽	8	8	⑧
cAA+gluc	●	○	△	▽	12	12	⑫
RDM+glyc	●	Historical data:		□	Strain B/r; Ref. (10)		
RDM+gluc	●			◇	Strain 15 τ -bar; Ref. (12)		

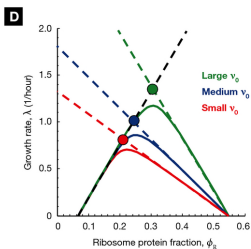
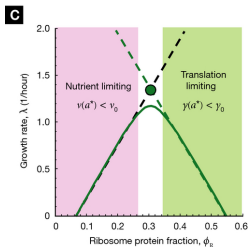
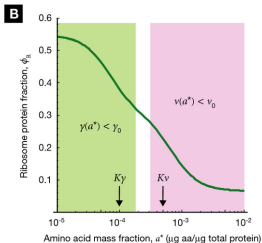
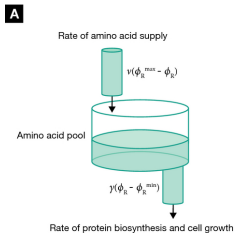
Taux de croissance et inhibition de la traduction *Scott et al.*



Strain	EQ2/EQ3				
	Chloramphenicol conc. (μM)				
Medium	0	2	4	8	12
M63+glyc	●	②	④	⑧	⑫
M63+gluc	●	②	④	⑧	⑫
cAA+glyc	●	②	④	⑧	⑫
cAA+gluc	●	②	④	⑧	⑫
RDM+glyc	●	②	④	⑧	⑫
RDM+gluc	●	②	④	⑧	⑫



Flux d'acides aminés dans une bactérie *Scott et al.*



Taux de croissance d'une bactérienne bactérie *Scott et al.*

