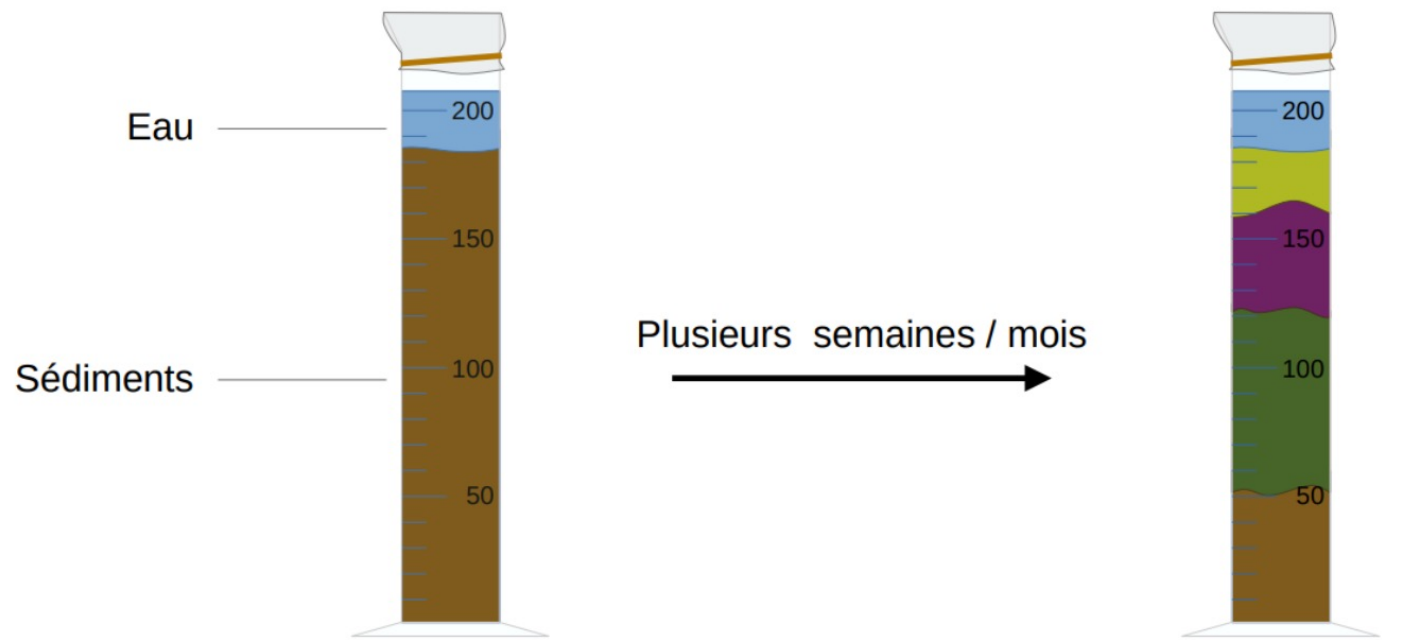
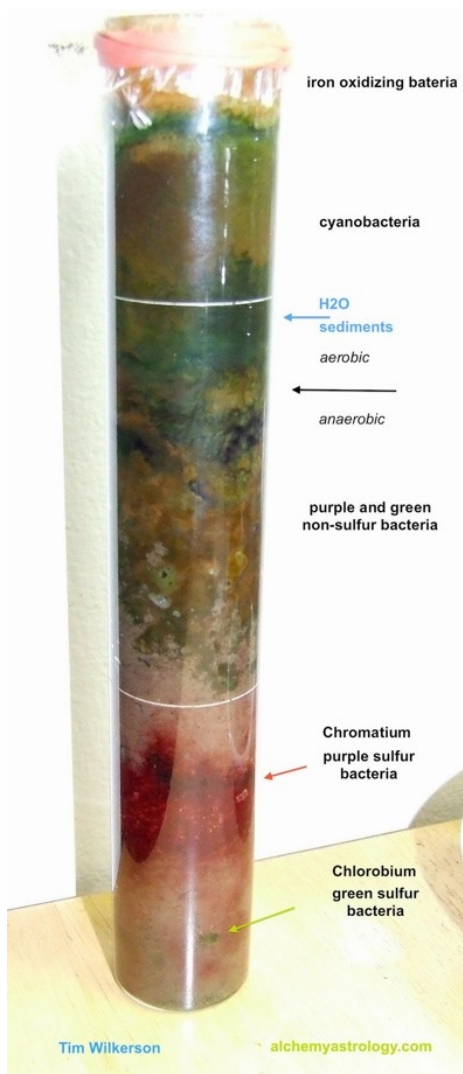


M1 – Le catabolisme oxydatif



©Sous le microscope

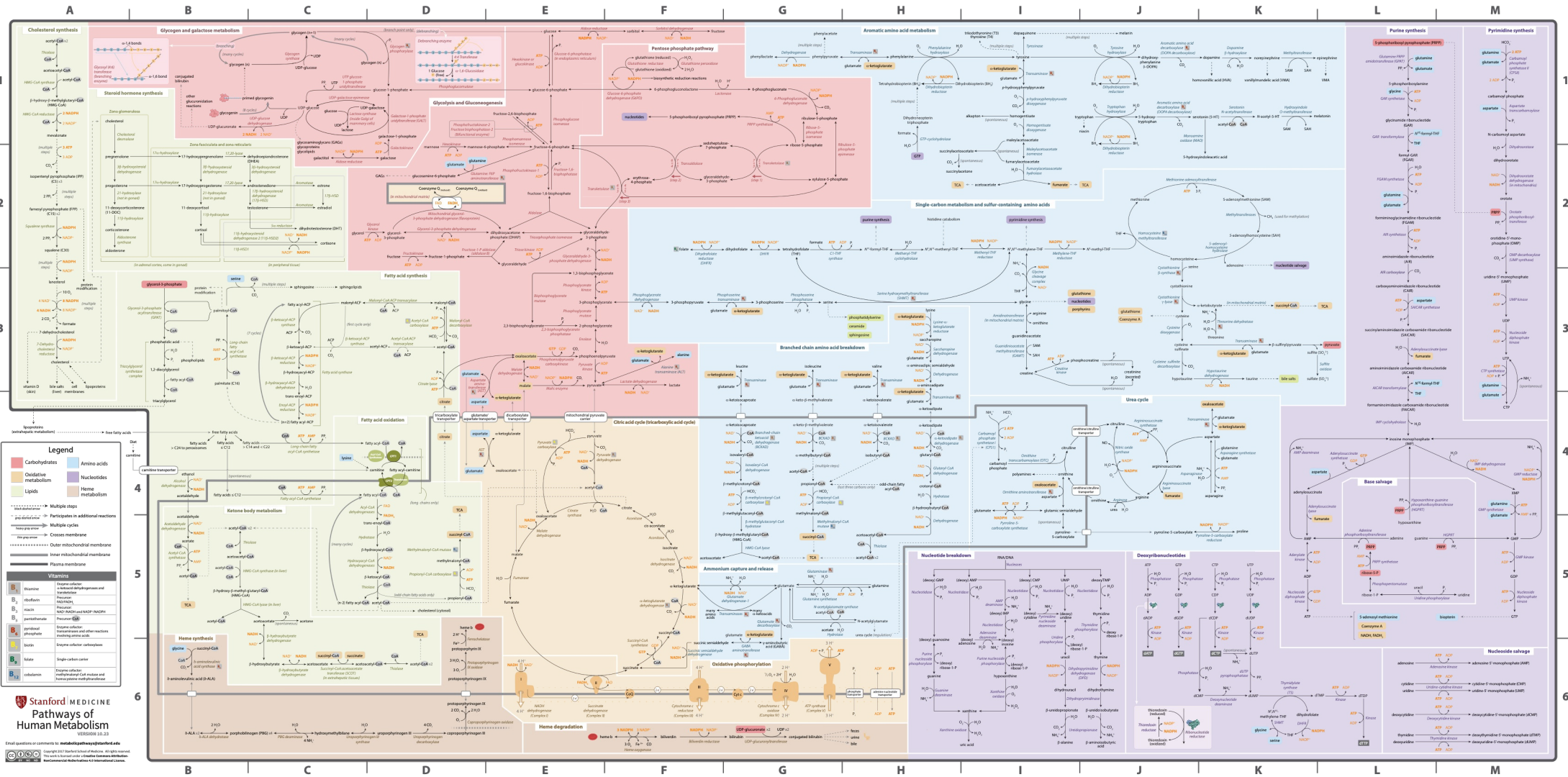
Fig. 1 : Colonne de Winogradsky (©Tim Wilkerson)



Fig. 2 : La source de la tête de lion ([@planet-terre](#)
[Sélosse, Busti et Thomas, 2008](#))



Bactérie ferroxydantes (©Busti)



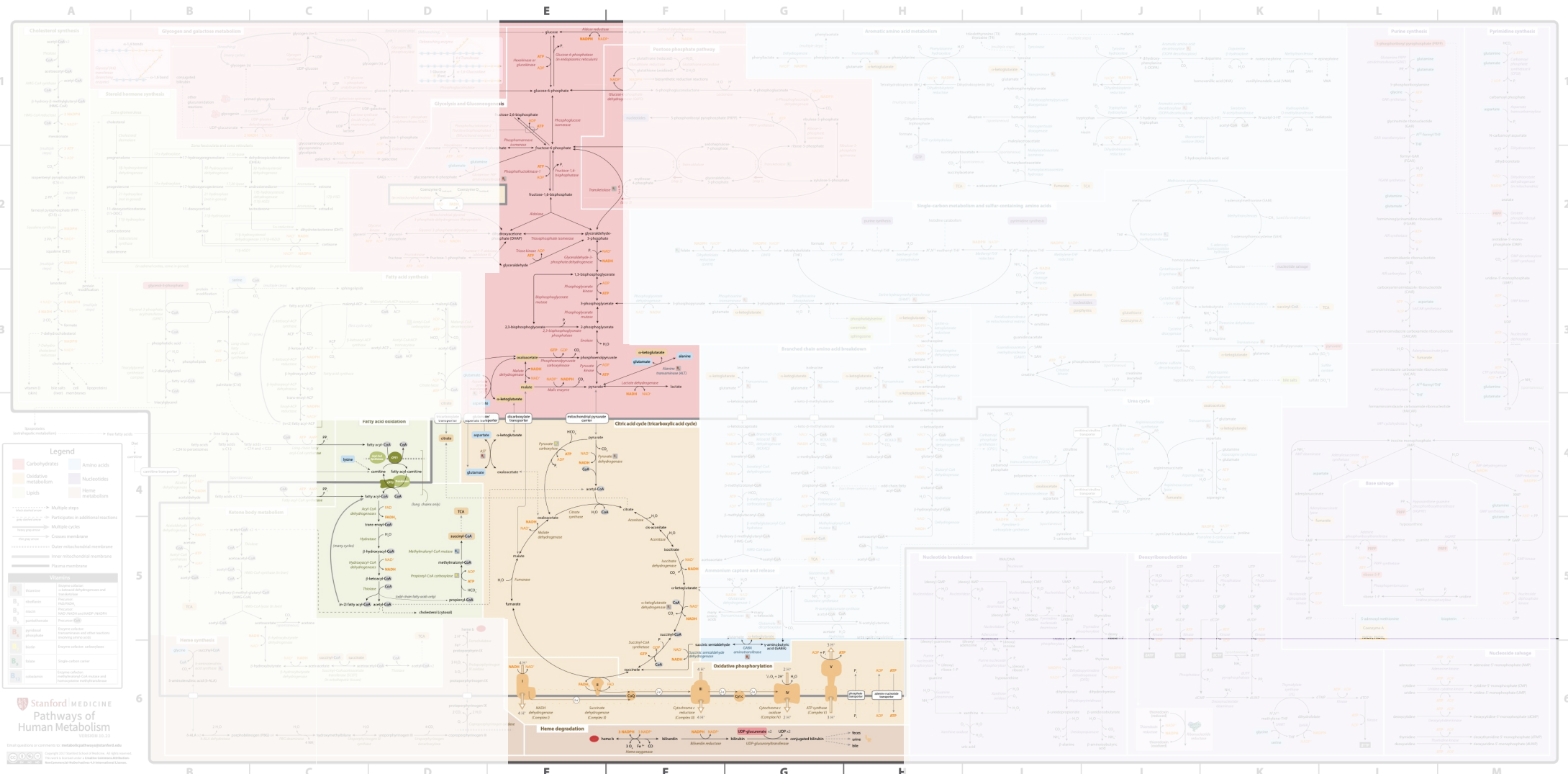
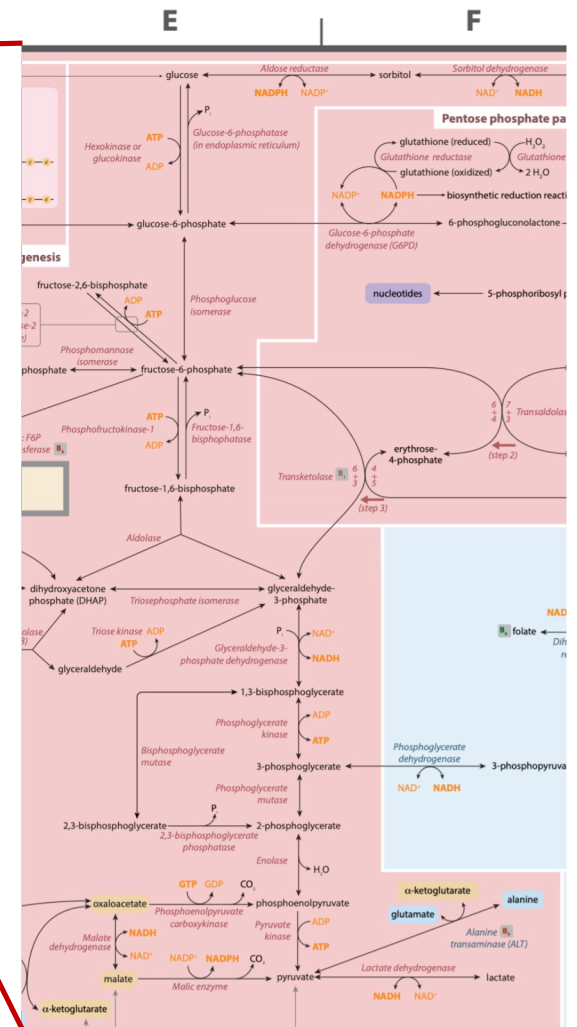
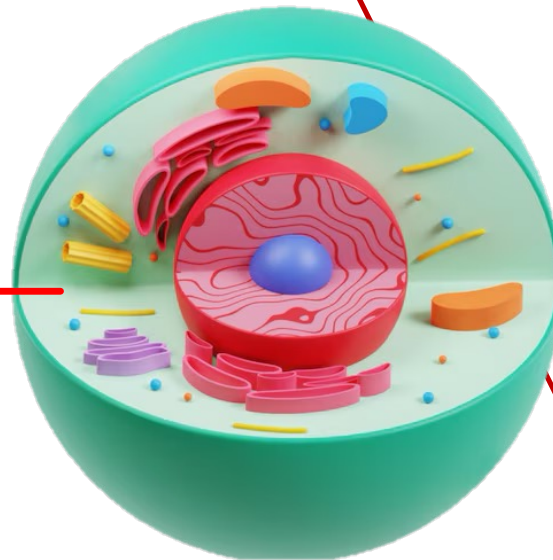
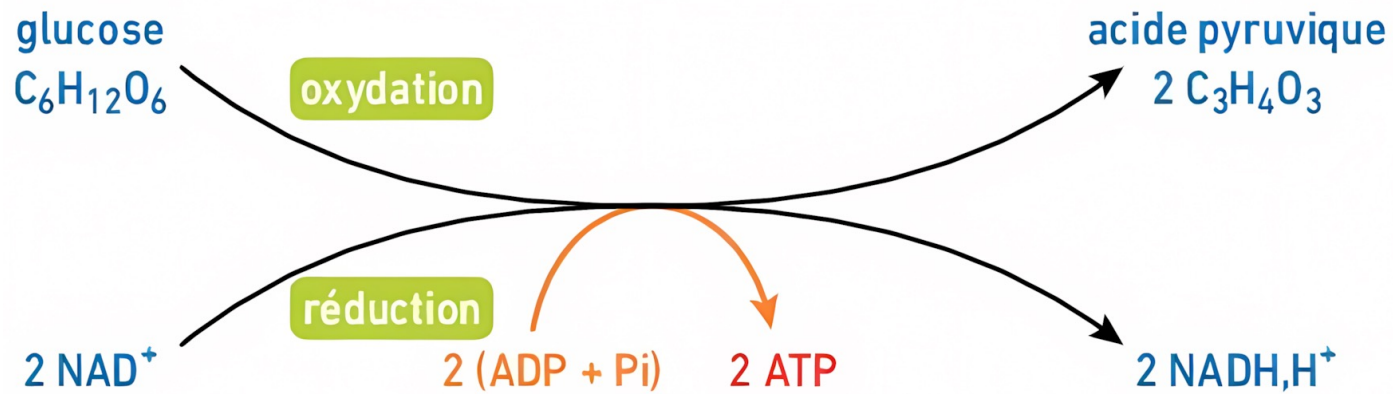


Fig. 3 : Les voies du métabolisme humain (©Stanford.edu)

I – Le cytosol



« Rappels » de lycée



La glycolyse, telle que vue au lycée (©Bordas, 2019)



Cours de biochimie: glycolyse (©D. Garcia)
<https://www.youtube.com/watch?v=ZrfP53M3dLY>

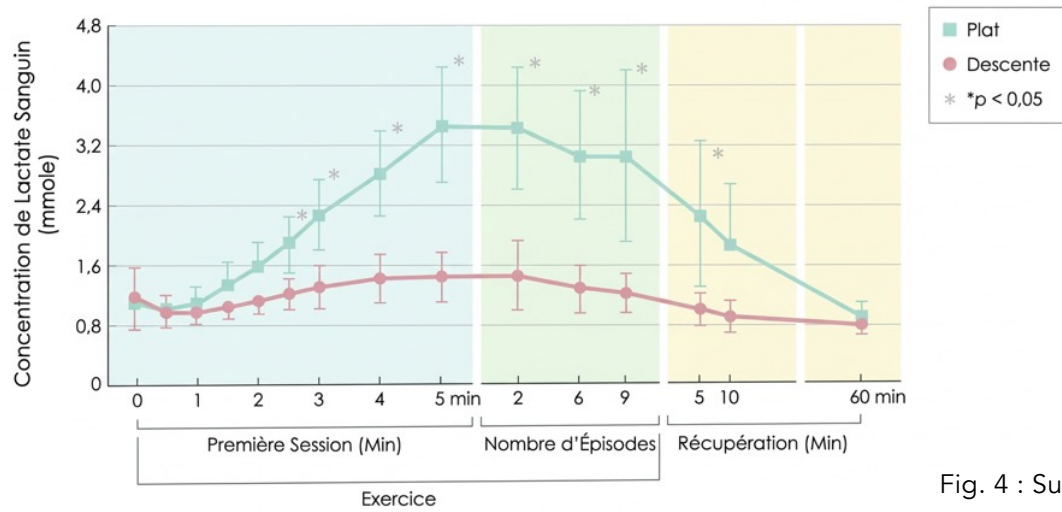


Fig. 4 : Suivi du lactate chez des coureurs (Reproduit de ©Schwane et al., 1983)

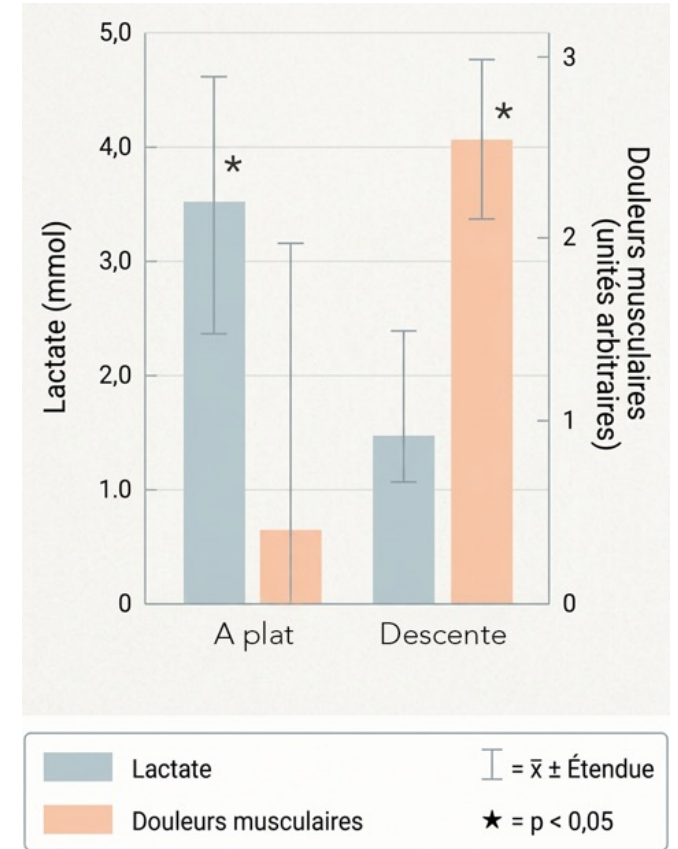
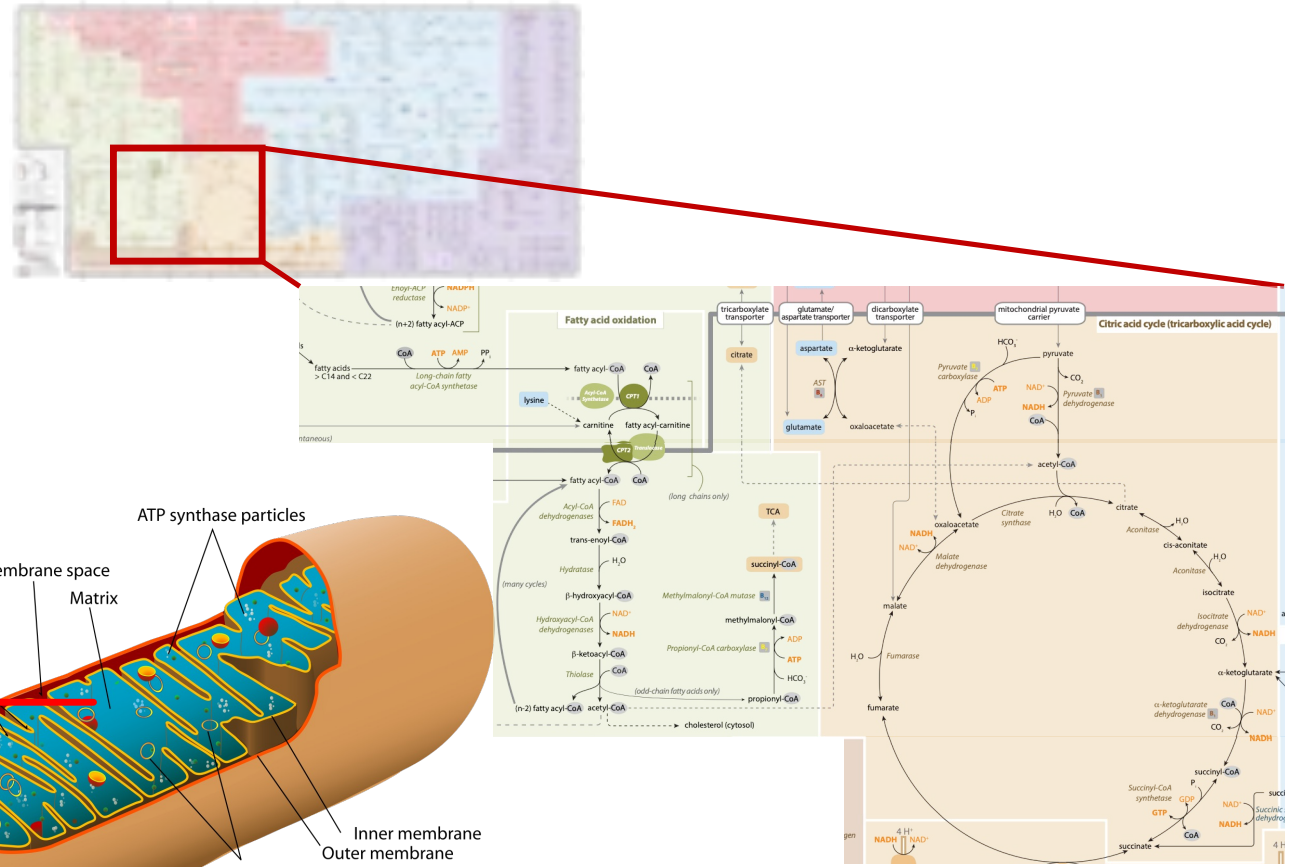
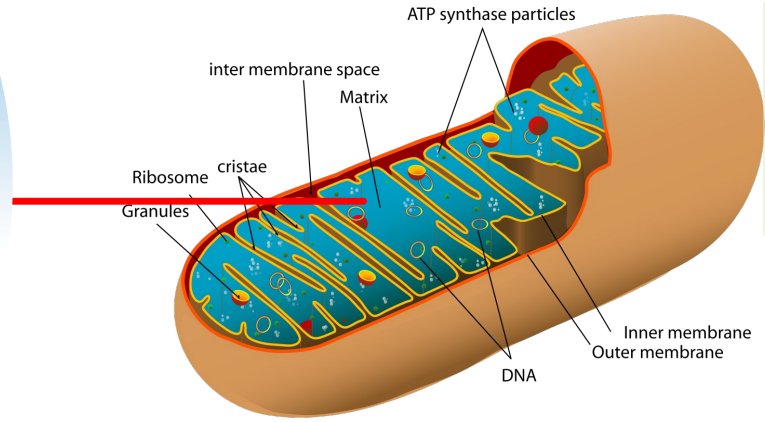
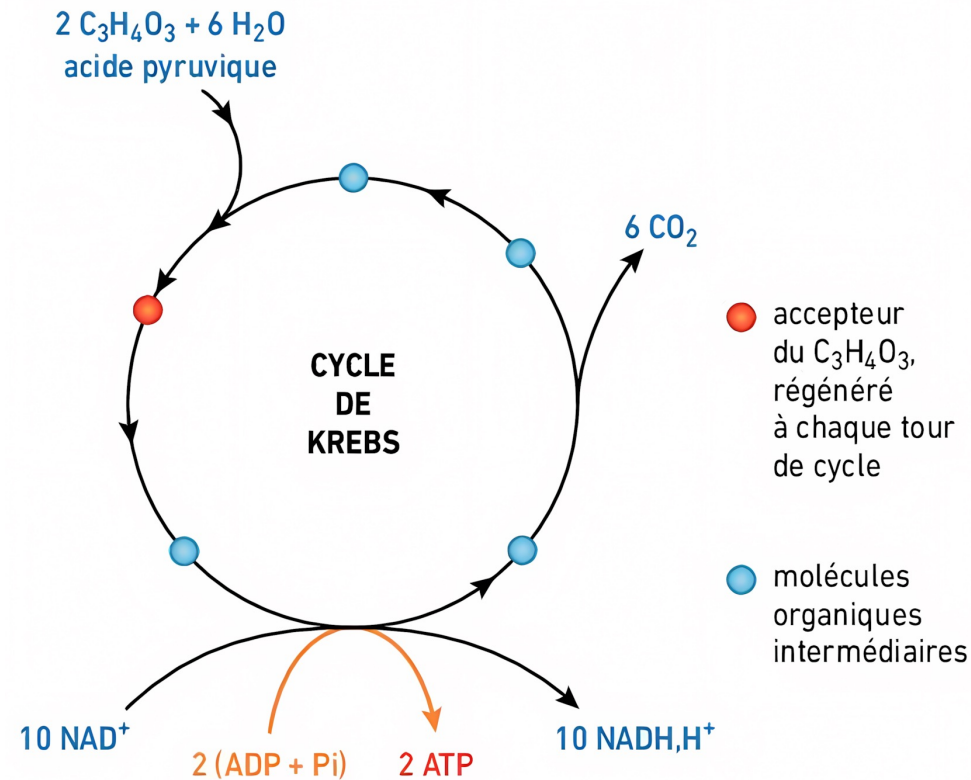


Fig. 5 : Mesure de la hausse de lactate et de la douleur musculaire selon le type de course (Reproduit de ©Schwane et al., 1983)

II – La matrice



« Rappels » de lycée

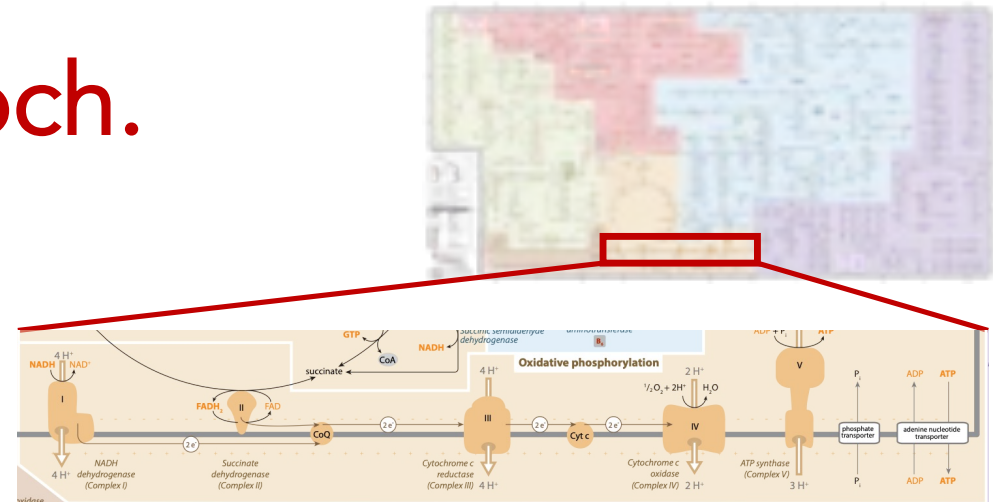
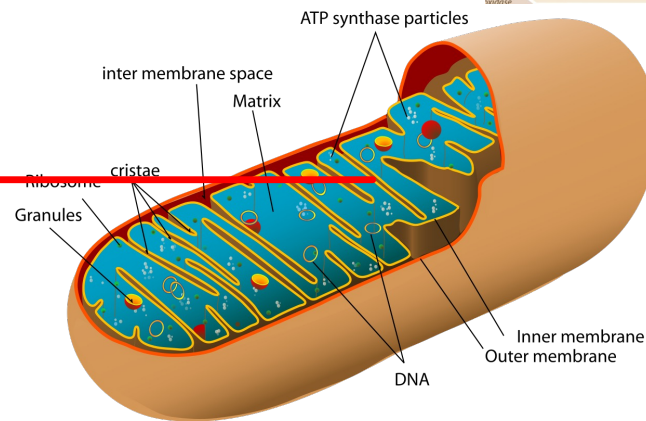


Le cycle de Krebs, tel que vue au lycée (©Bordas, 2019)



Cours de biochimie: cycle de Krebs (©D. Garcia)
<https://www.youtube.com/watch?v=yuvHwviyIUE>

III – La membrane mitoch.



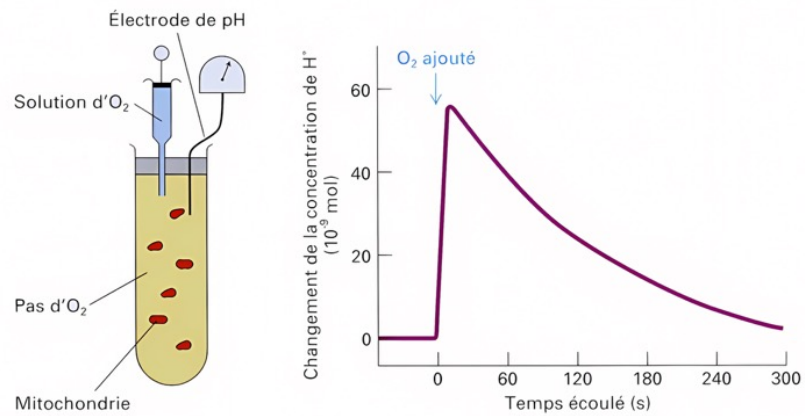


Fig. 6 : MEE du couplage d'oxydation des coenzymes et transport de H⁺ (©Lodish)

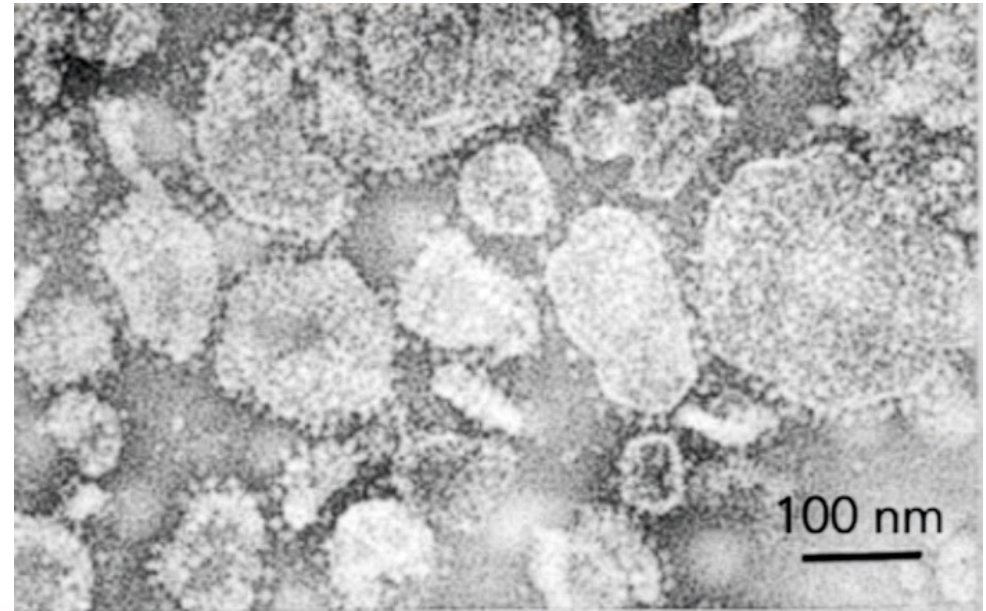


Fig. 8 : Observation au MET de PSM (©Sikerwar et al., 1979)

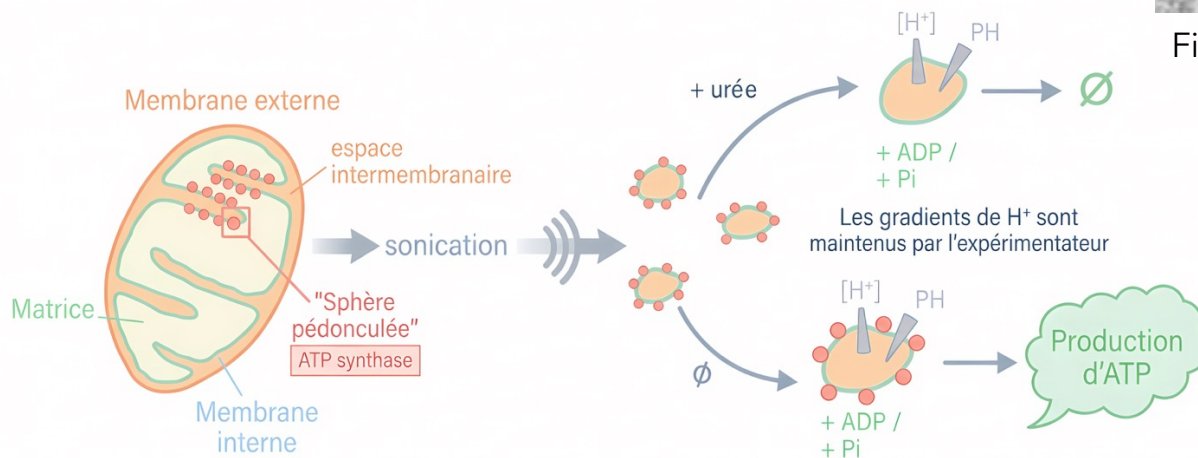


Fig. 7 : Expériences menées sur des particules submitochondriales

« Rappels » de lycée

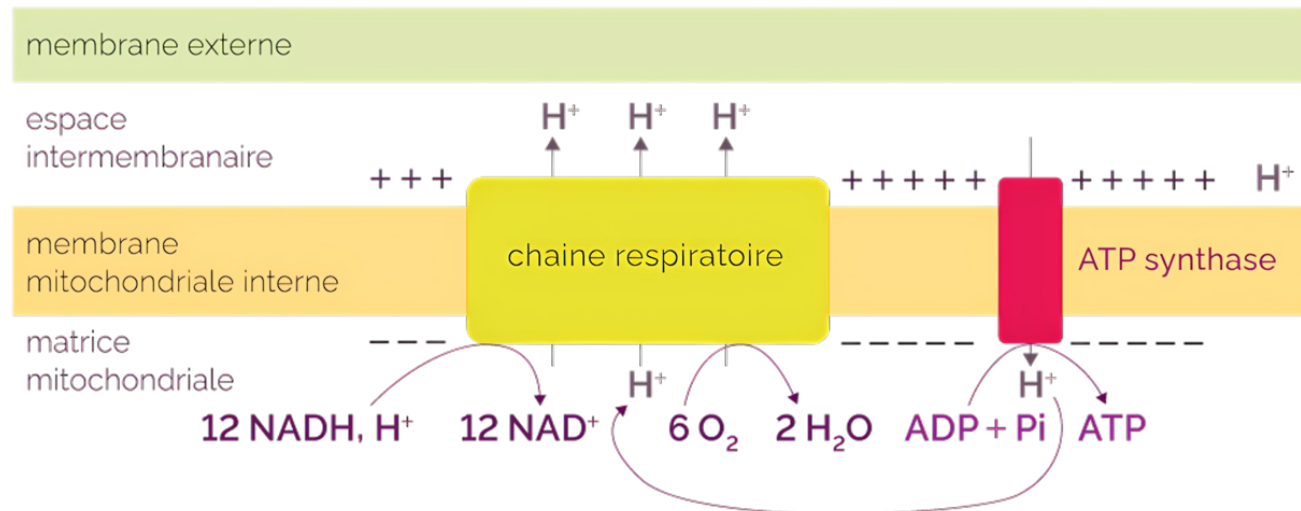


Fig. 9 : Chaîne respiratoire simplifiée telle qu'étudiée au lycée (©Maxicours)

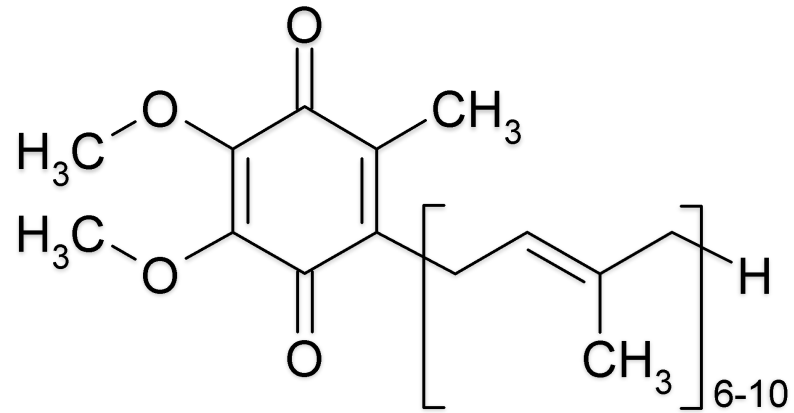


Fig. 10 : Ubiquinone (©Wikimedia)



https://consensus.app/search/topical-q10-coenzyme-skin-aging/TuguhDXoQlOYrCKCOWfVqg/?utm_source=share&utm_medium=clipboard

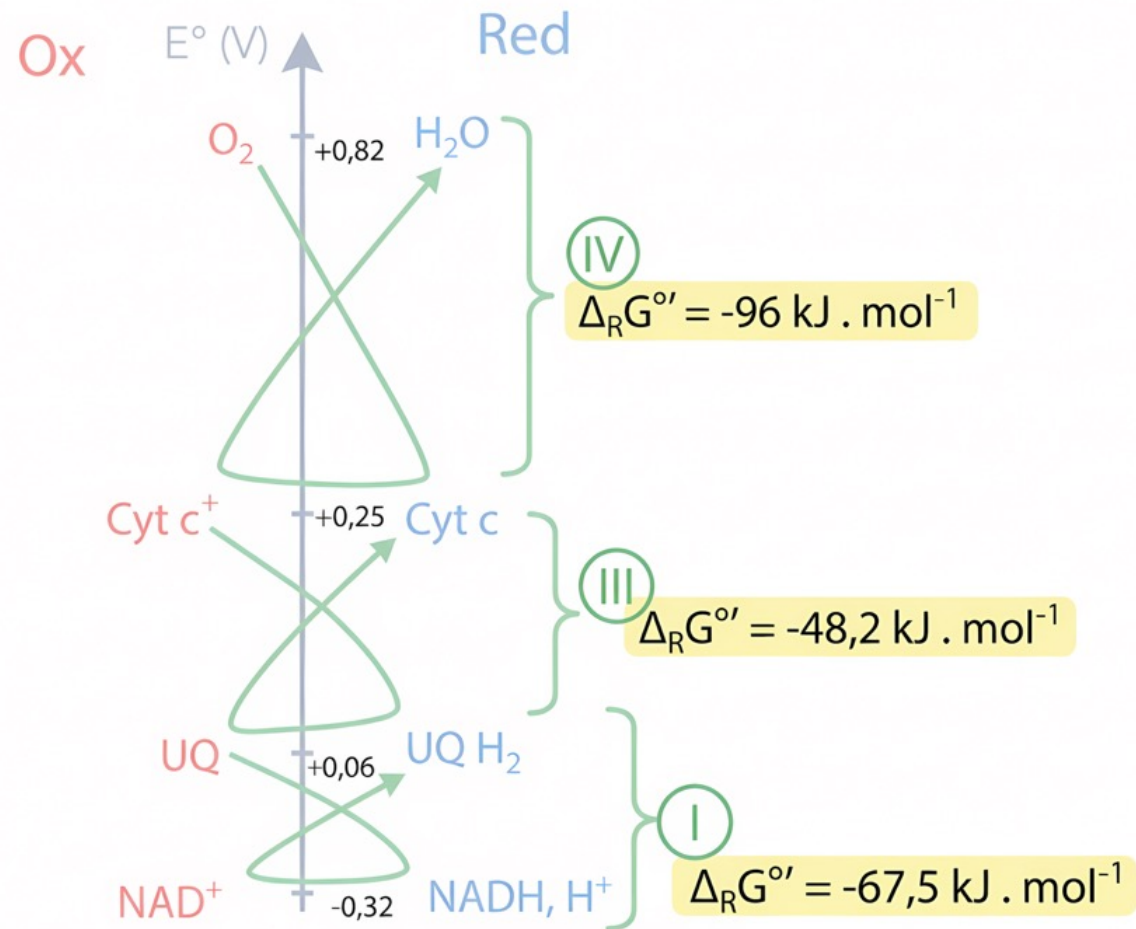
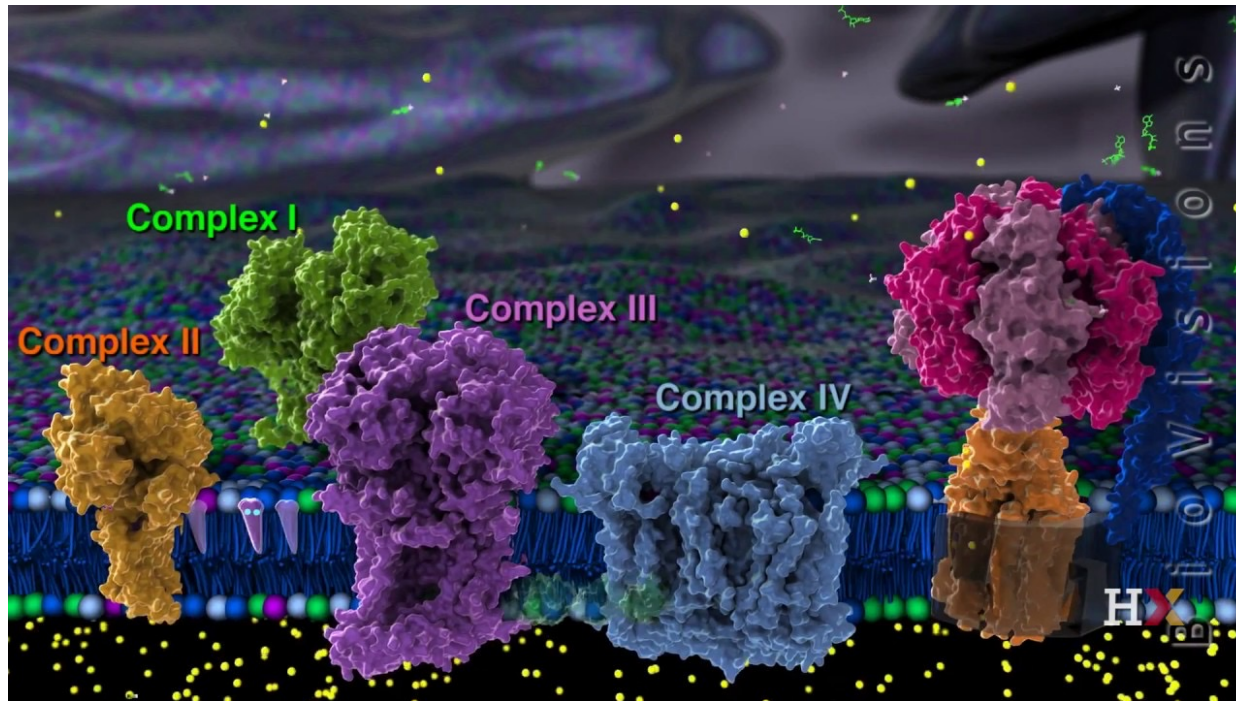


Fig. 11 : Échelle des potentiels rédox de la chaîne respiratoire



Electron transport chain (©Harvard Online)
<https://www.youtube.com/watch?v=LQmTKxI4Wn4>



Cours de biochimie: la chaîne respiratoire (@D. Garcia)
<https://www.youtube.com/watch?v=UI9W-CvCRYA>

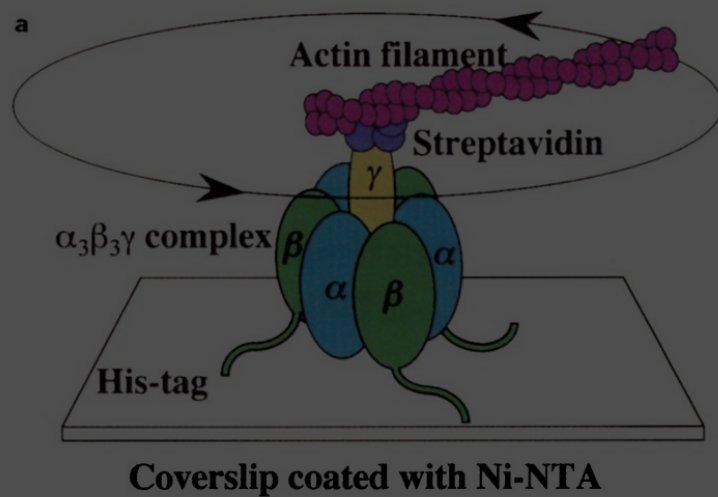


Fig. 12 : Système utilisé pour visualiser la rotation de l'ATP synthase (©Noji et al., 1997)



Vous n'êtes pas prêts

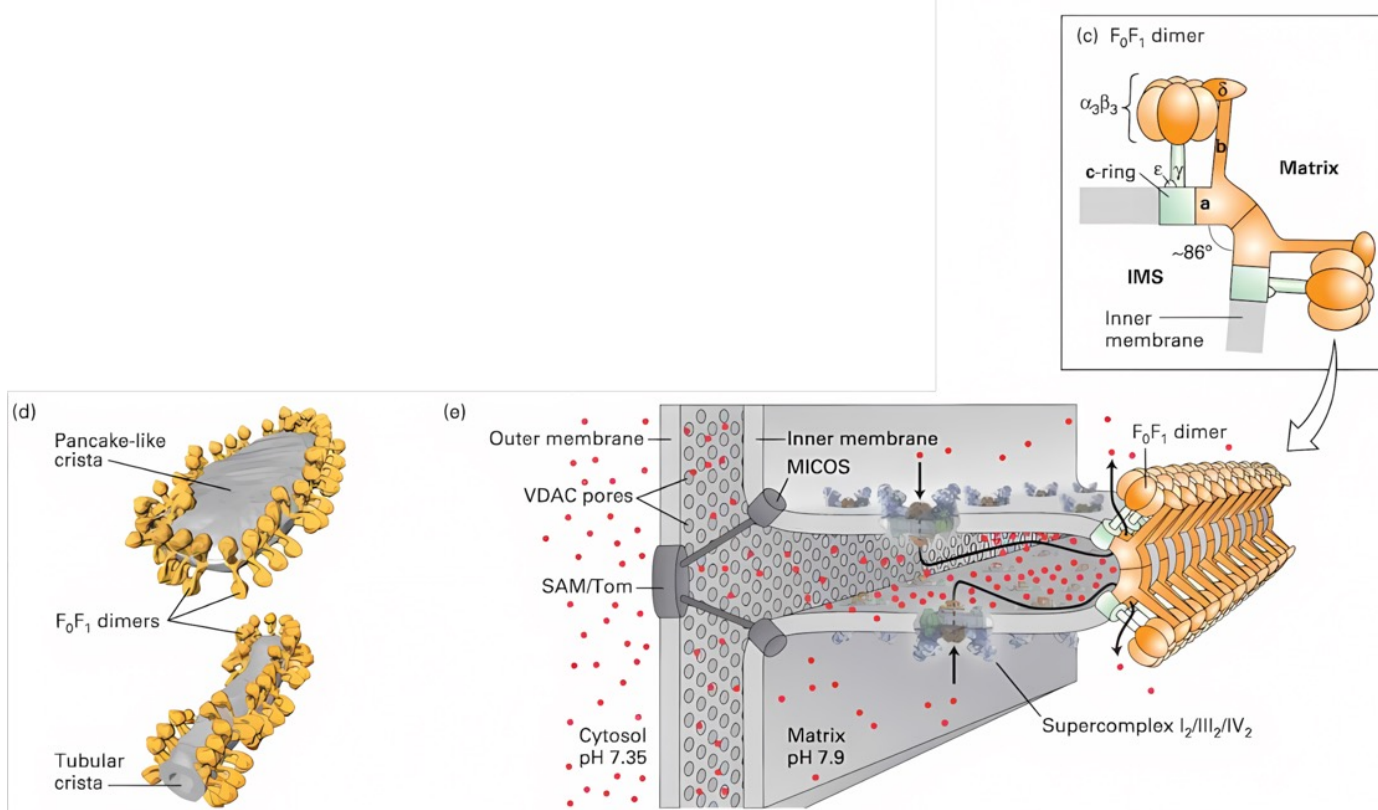
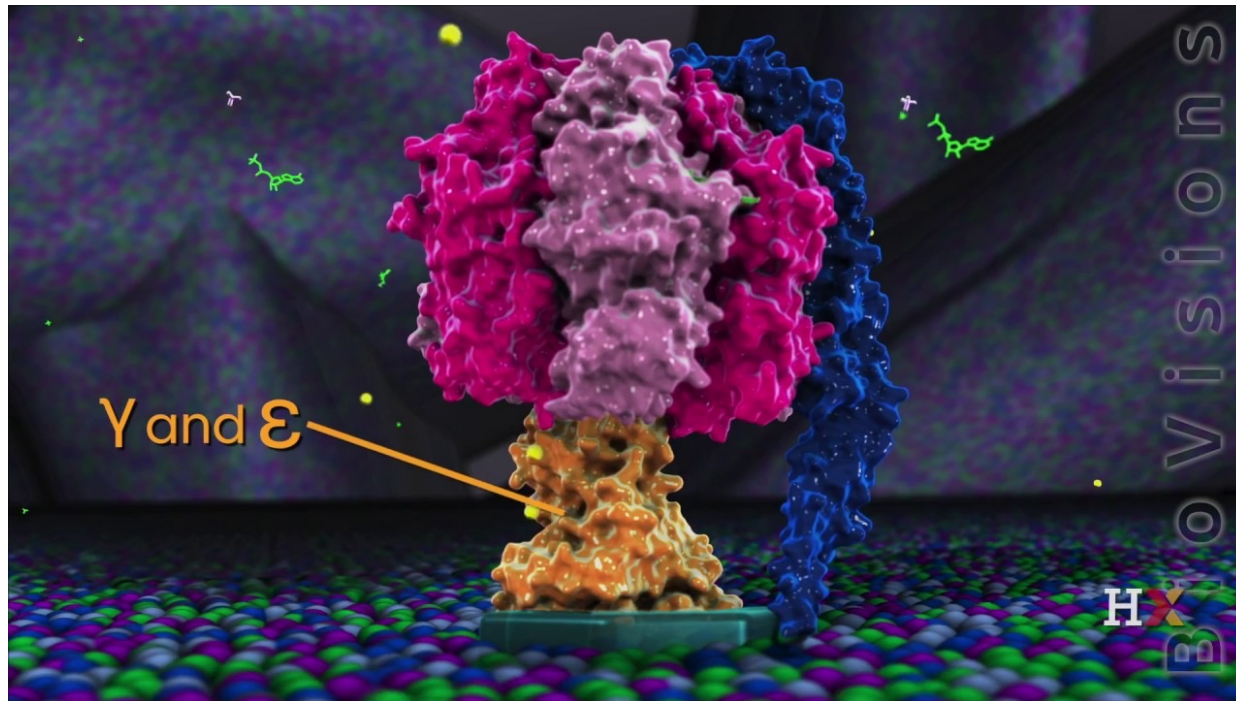


Fig. 14 : Mise en évidence de la disposition des ATP-synthase au sein des mitochondries (©Lodish)



ATP synthase in action (©Harvard Online)

<https://www.youtube.com/watch?v=kXpzp4RDGJI>

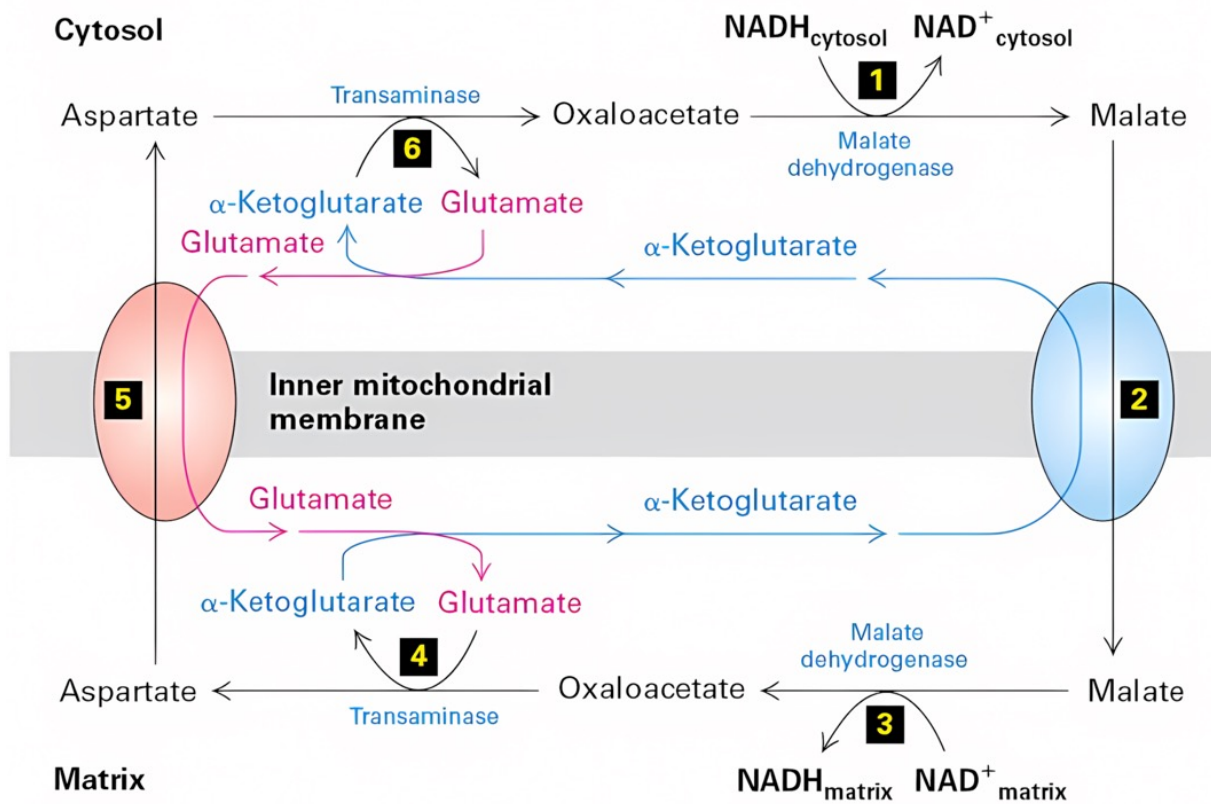


Fig. 15 : Navette Malate-Aspartate-Oxaloacetate (©Lodish)

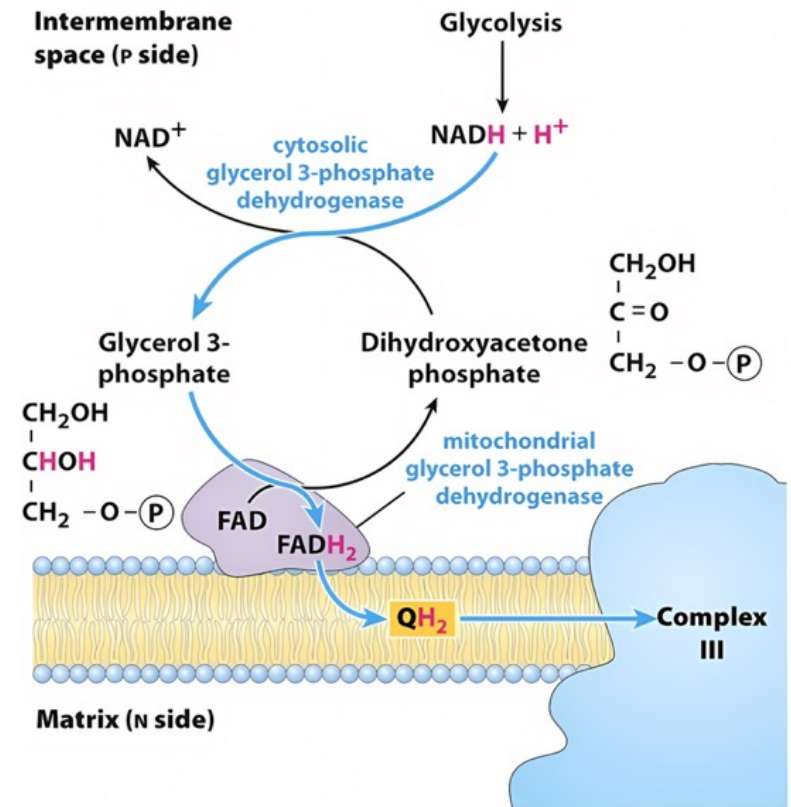


Fig. 16 : La navette glycérol-3-phosphate (©Lehinger)

Comparison of Glycerol-3-phosphate Dehydrogenase and Malate Dehydrogenase Expression Across Human Tissues

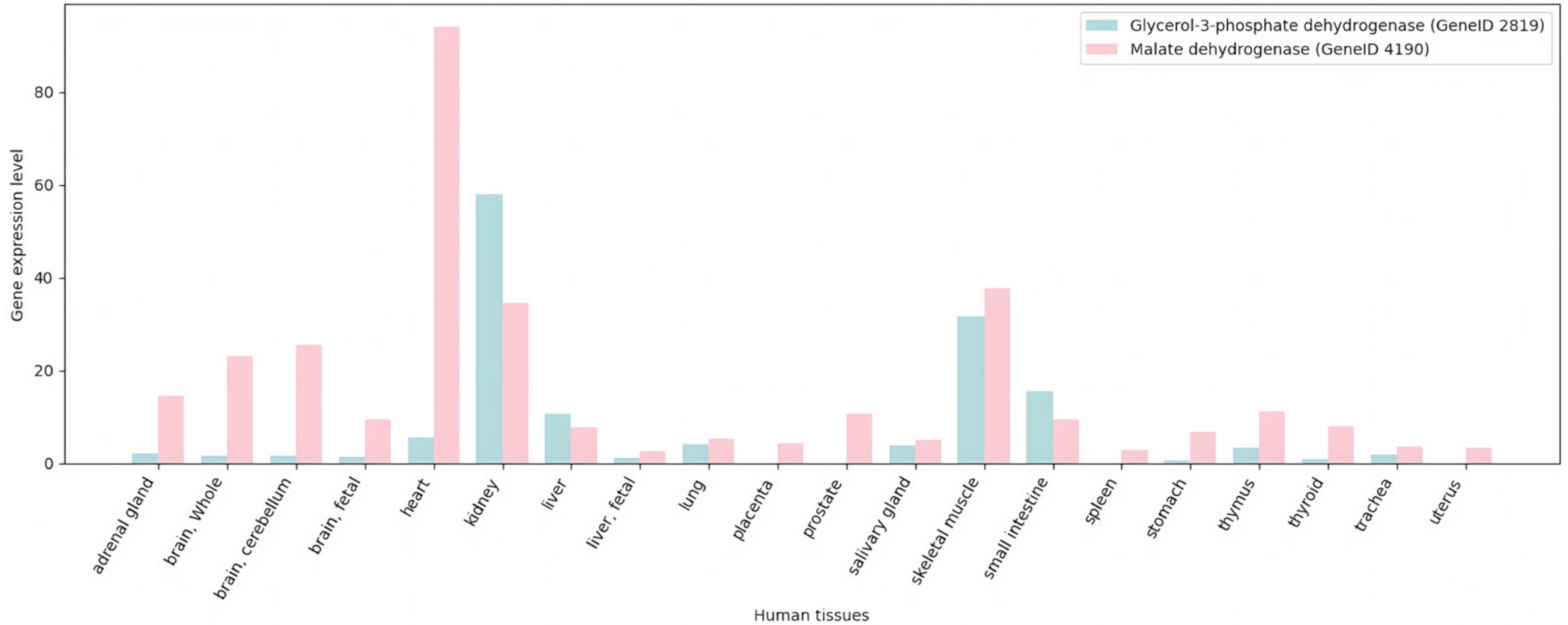
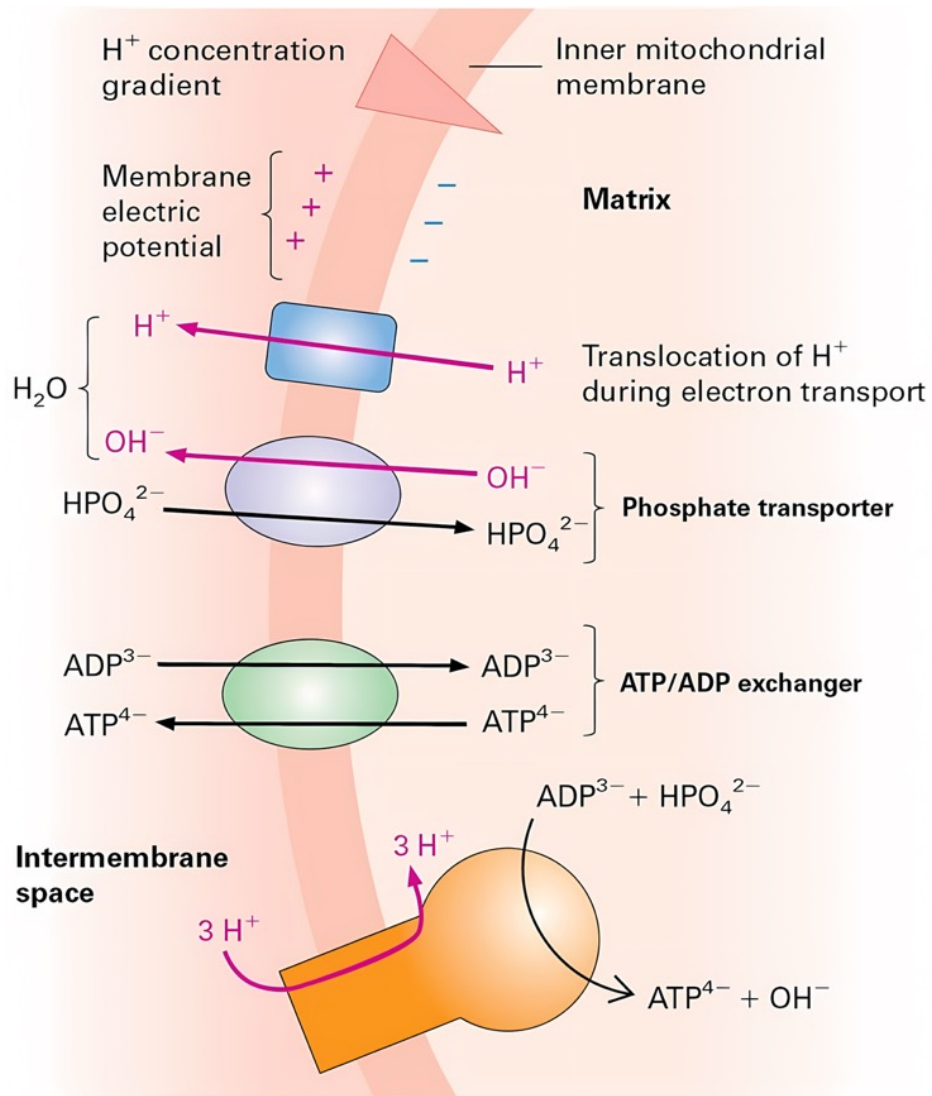
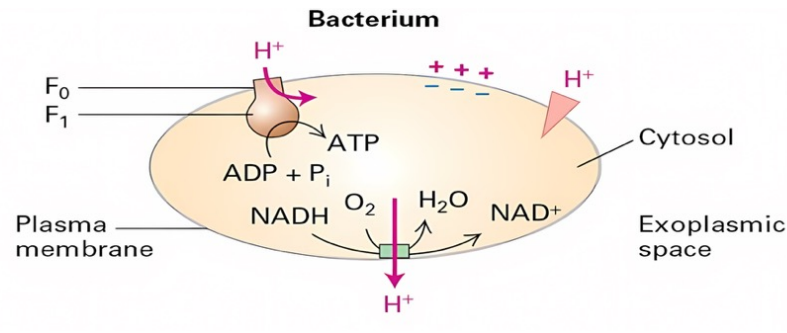


Fig. 17 : Expression comparative du gène de la glycerol-3-P déshydrogénase et de la malate déshydrogénase dans les tissus humains (Données tirées de ncbi.nlm.nih.gov)

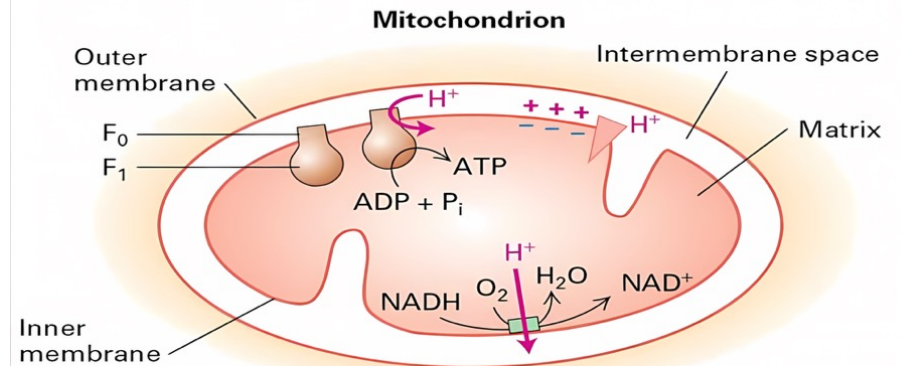


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Fig. 18 : Les transporteurs de la membrane interne mitochondriale (©Lodish)



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Fig. 19 : L'ATP synthase, dans le vivant (©Lodish)

