

Dynamique des Chromosomes durant la Mitose chez la Levure à Fission

Hadrien Mary

16 décembre 2015

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Introduction

La mitose

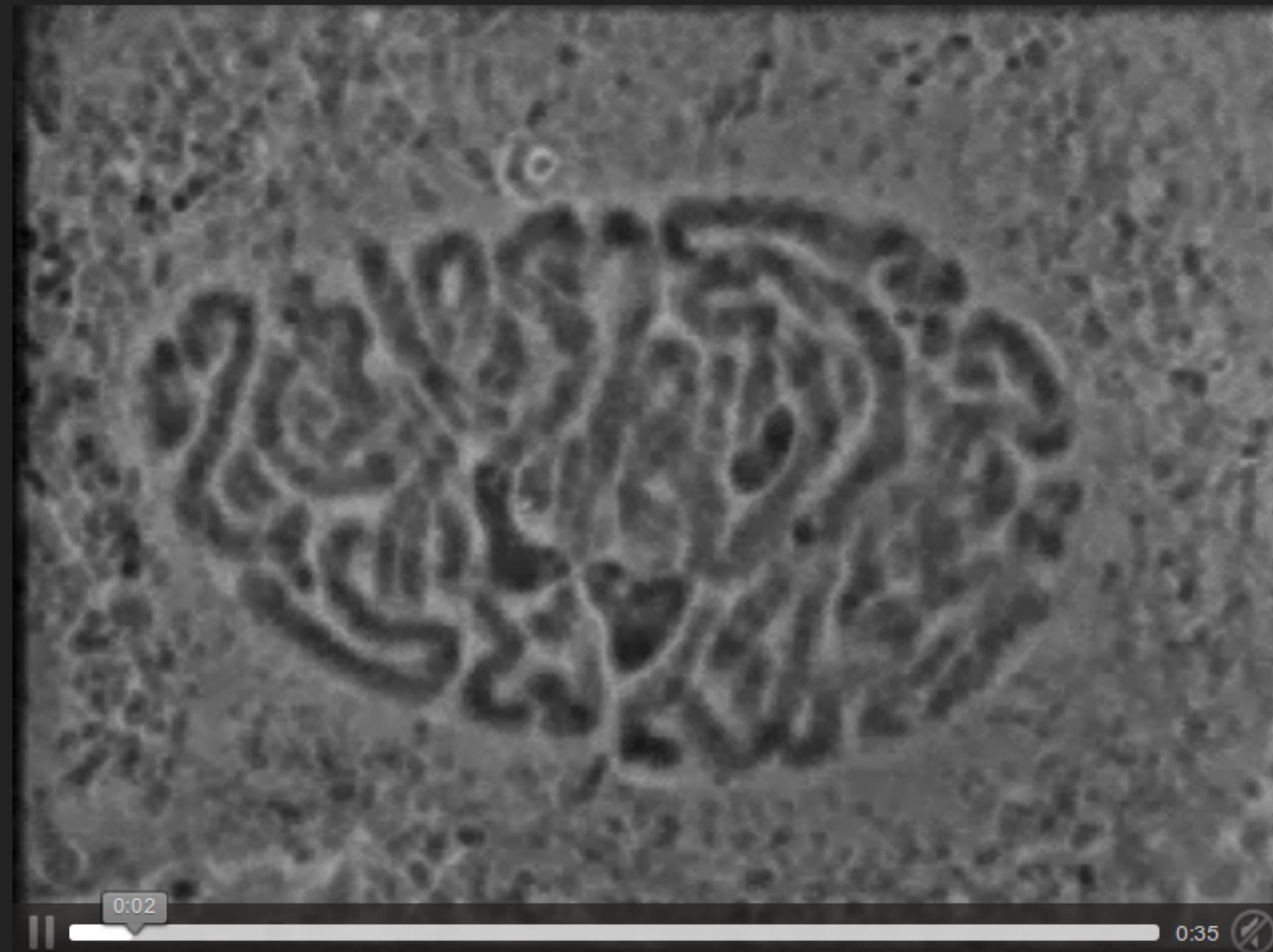
« Le rêve de chaque cellule est de devenir deux cellules. » (François Jacob, 1974)



Haemanthus katherinae cell, Bajer, 1956 (time x300)

La mitose

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Haemanthus katherinae cell, Bajer, 1956 (time x300)

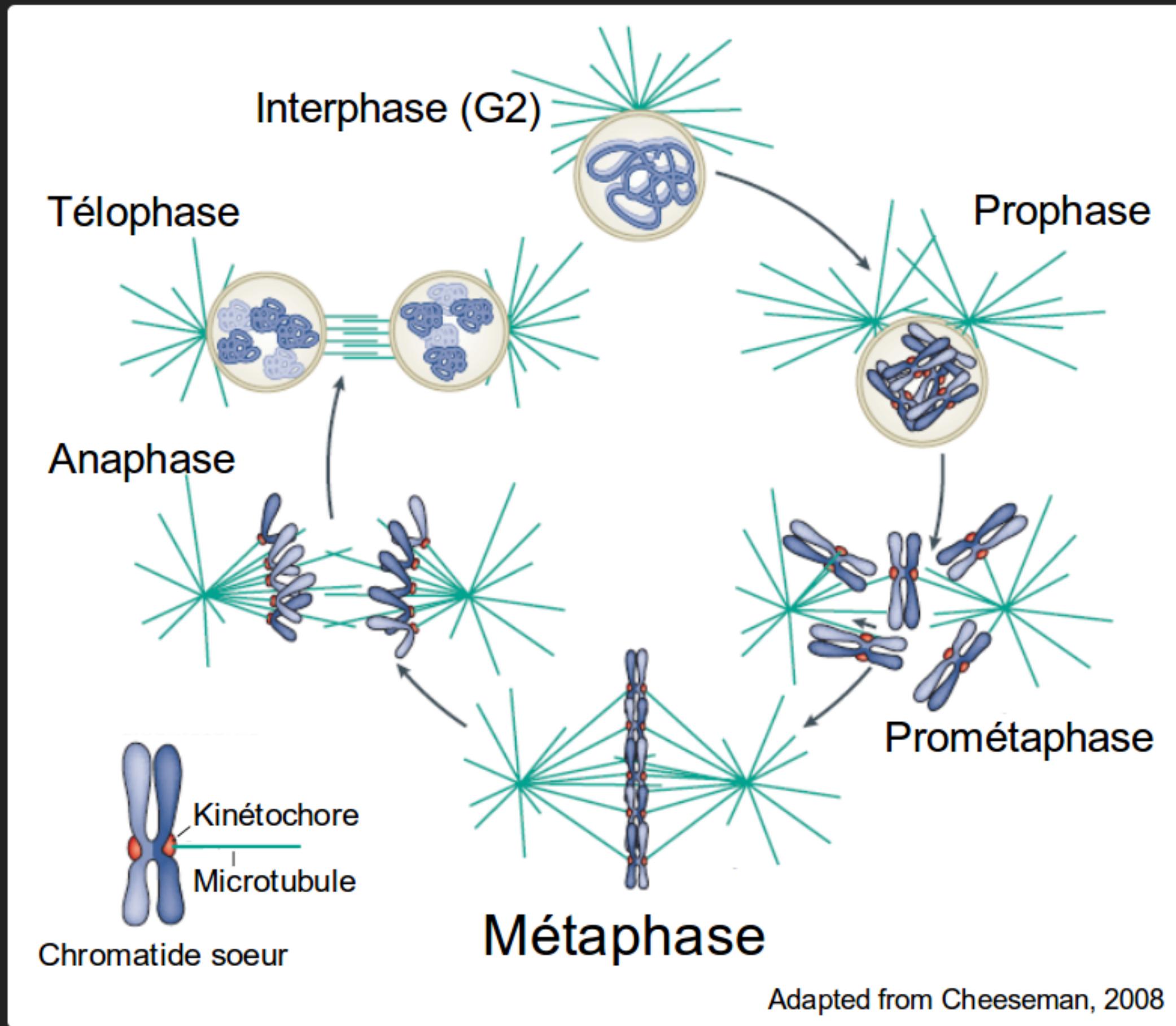
La mitose

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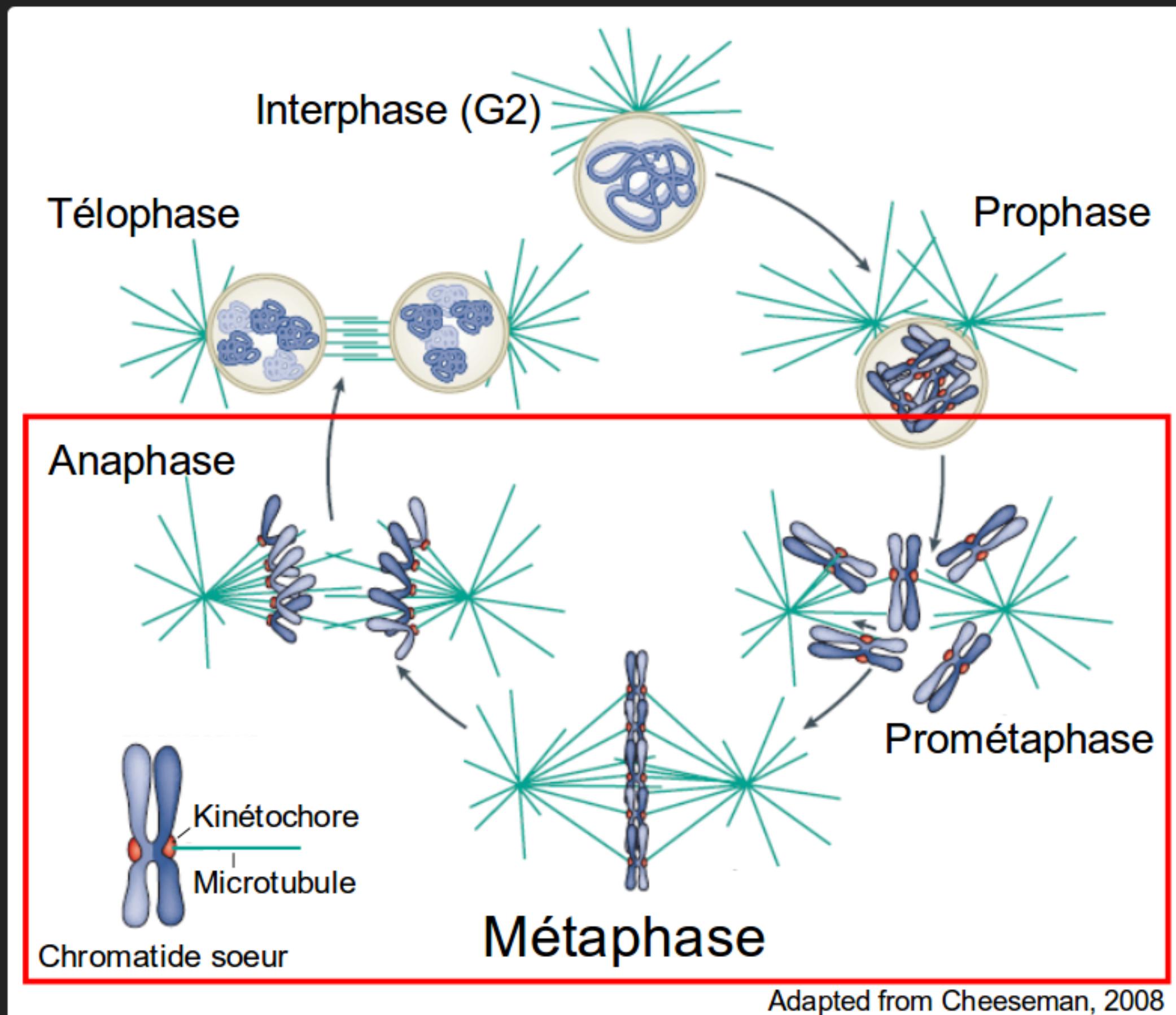


Haemanthus katherinae cell, Bajer, 1956 (time x300)

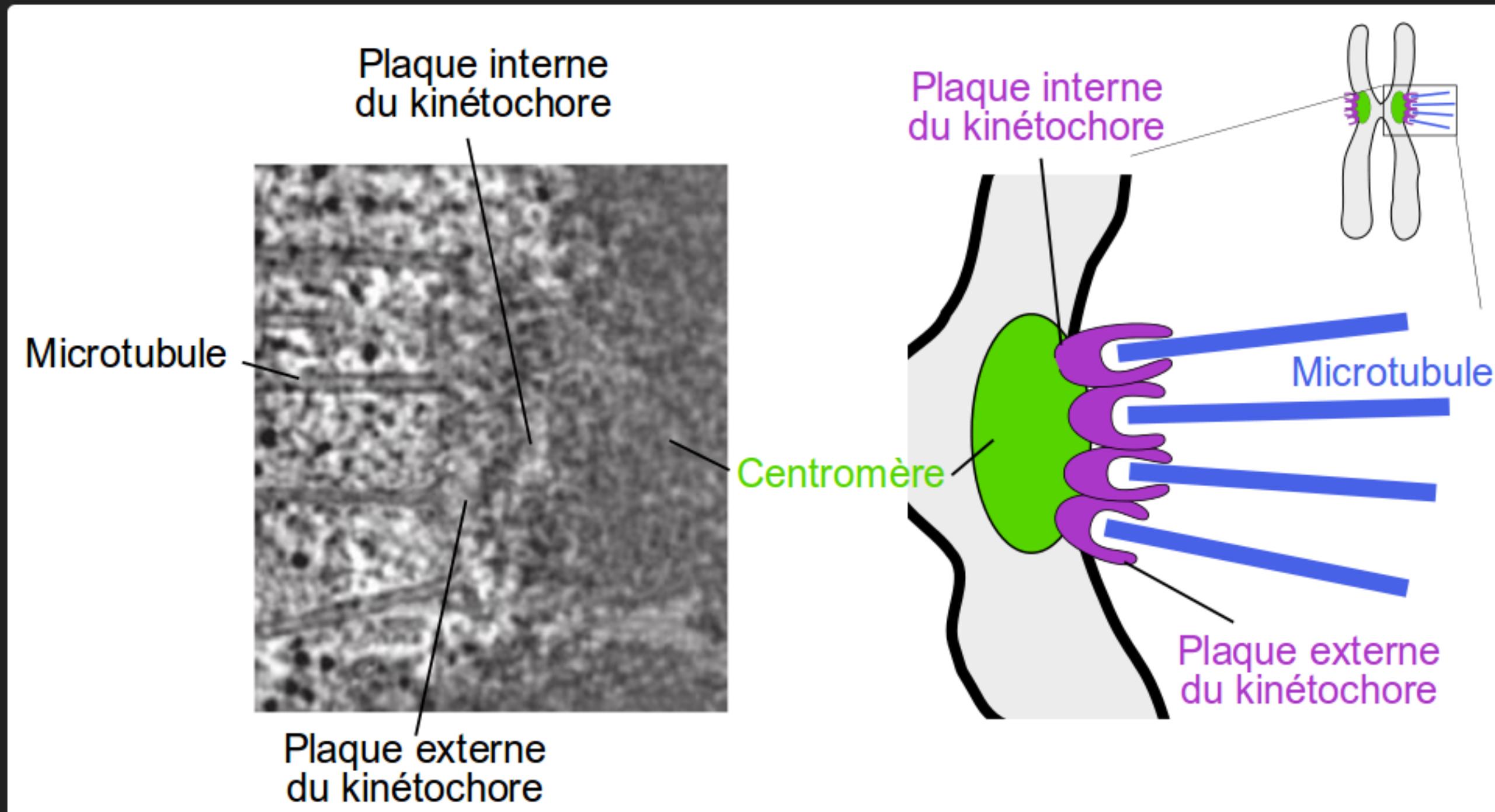
La mitose



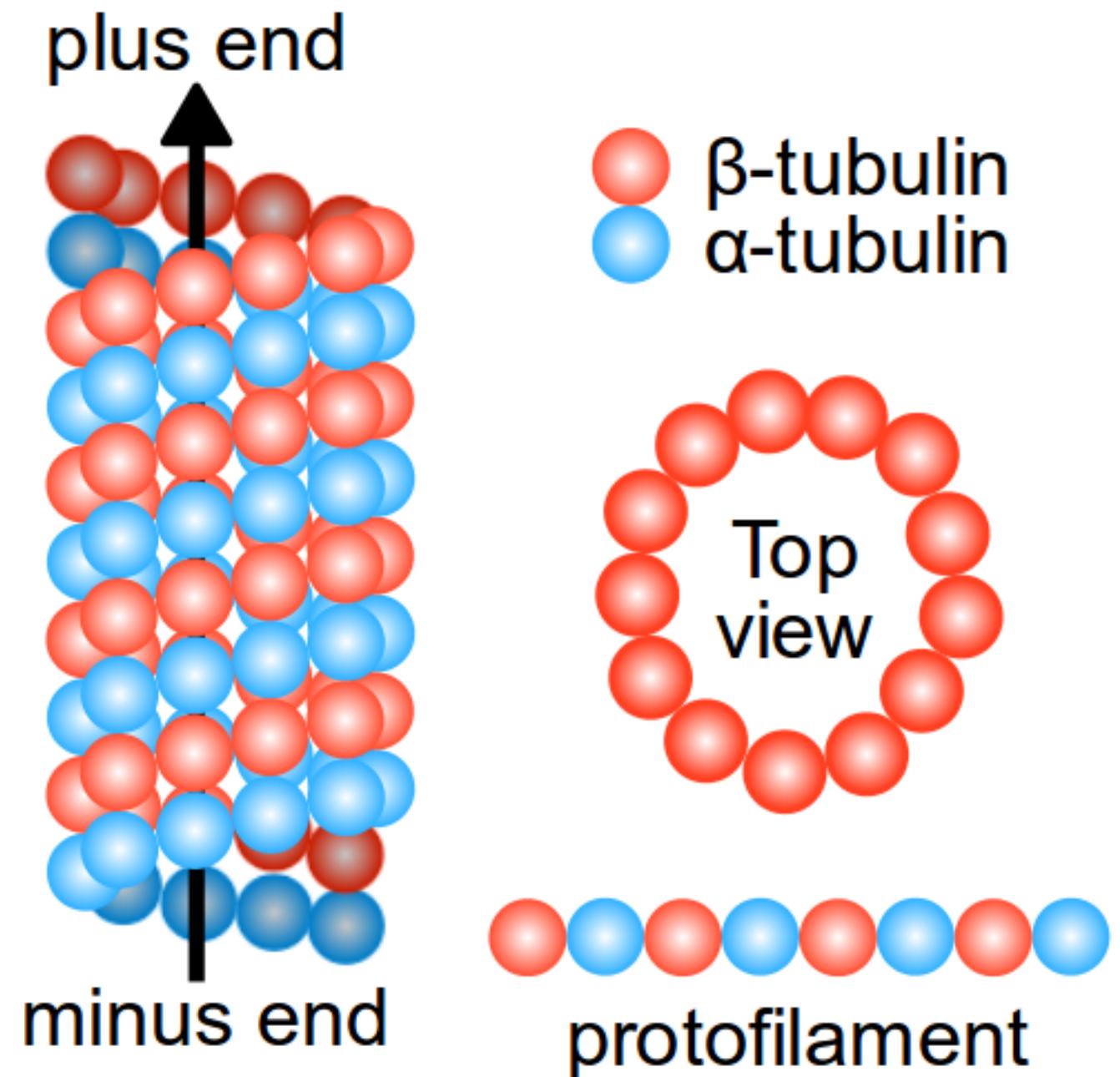
La mitose



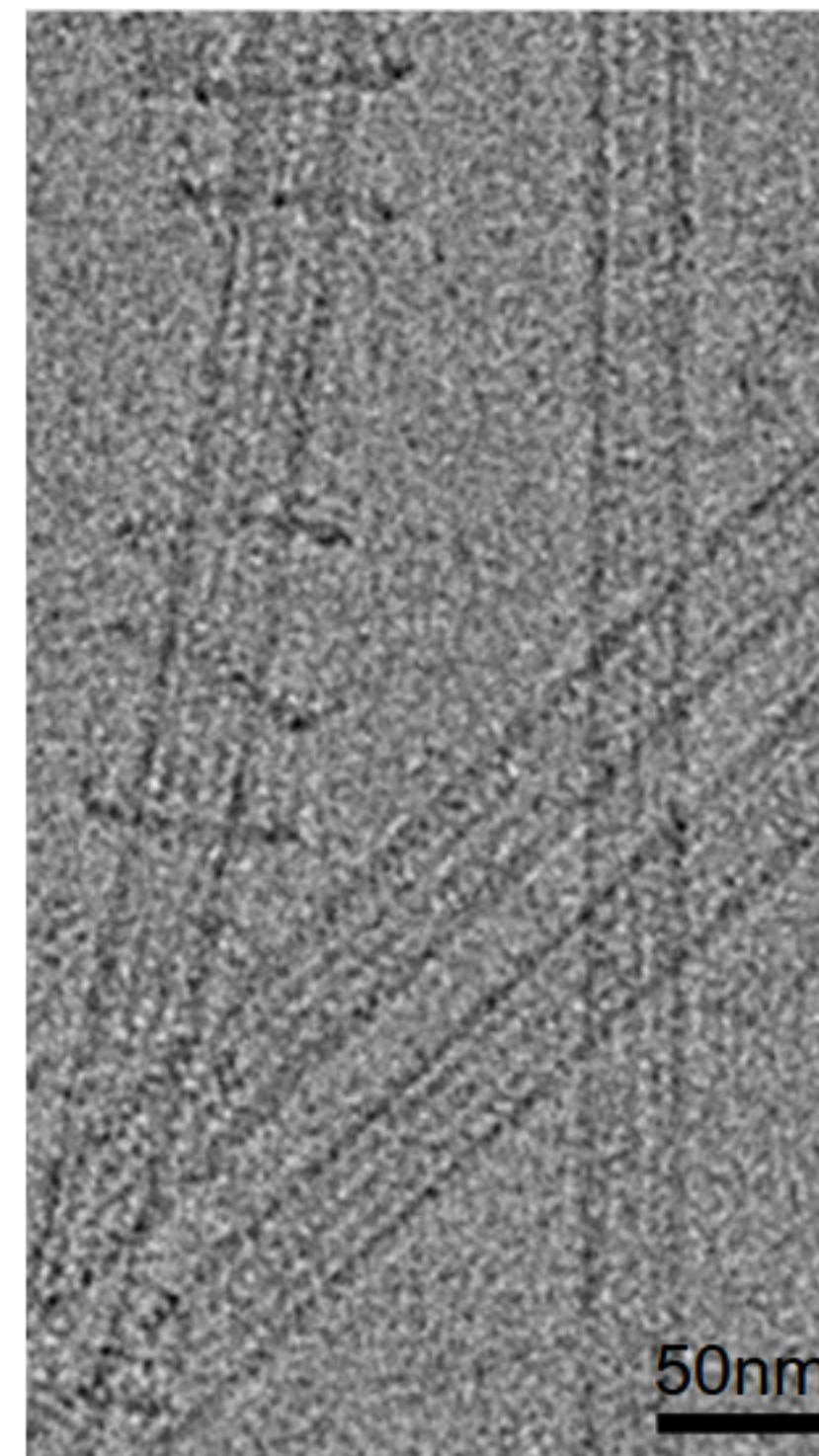
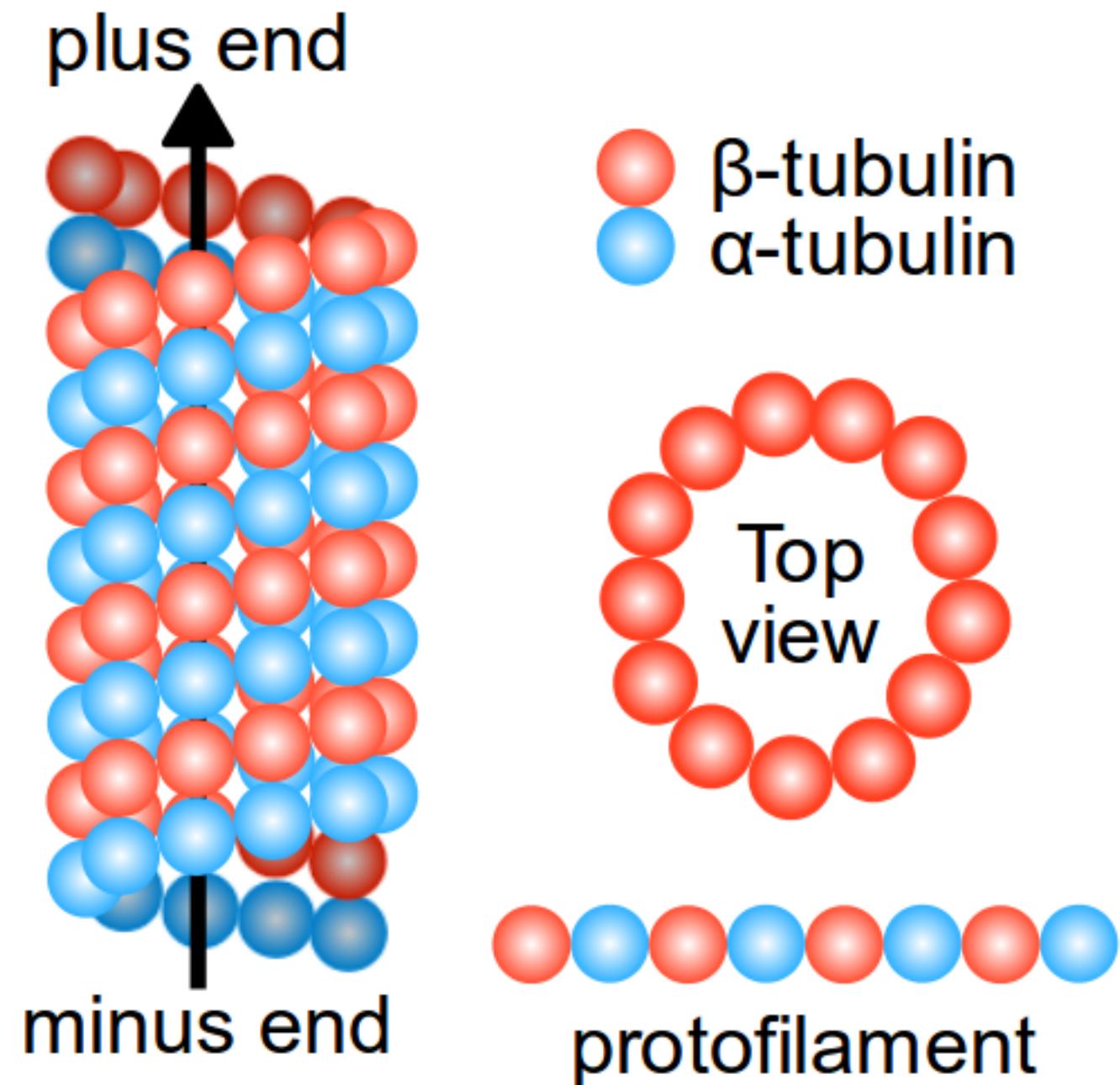
Le kinétochore



Les microtubules

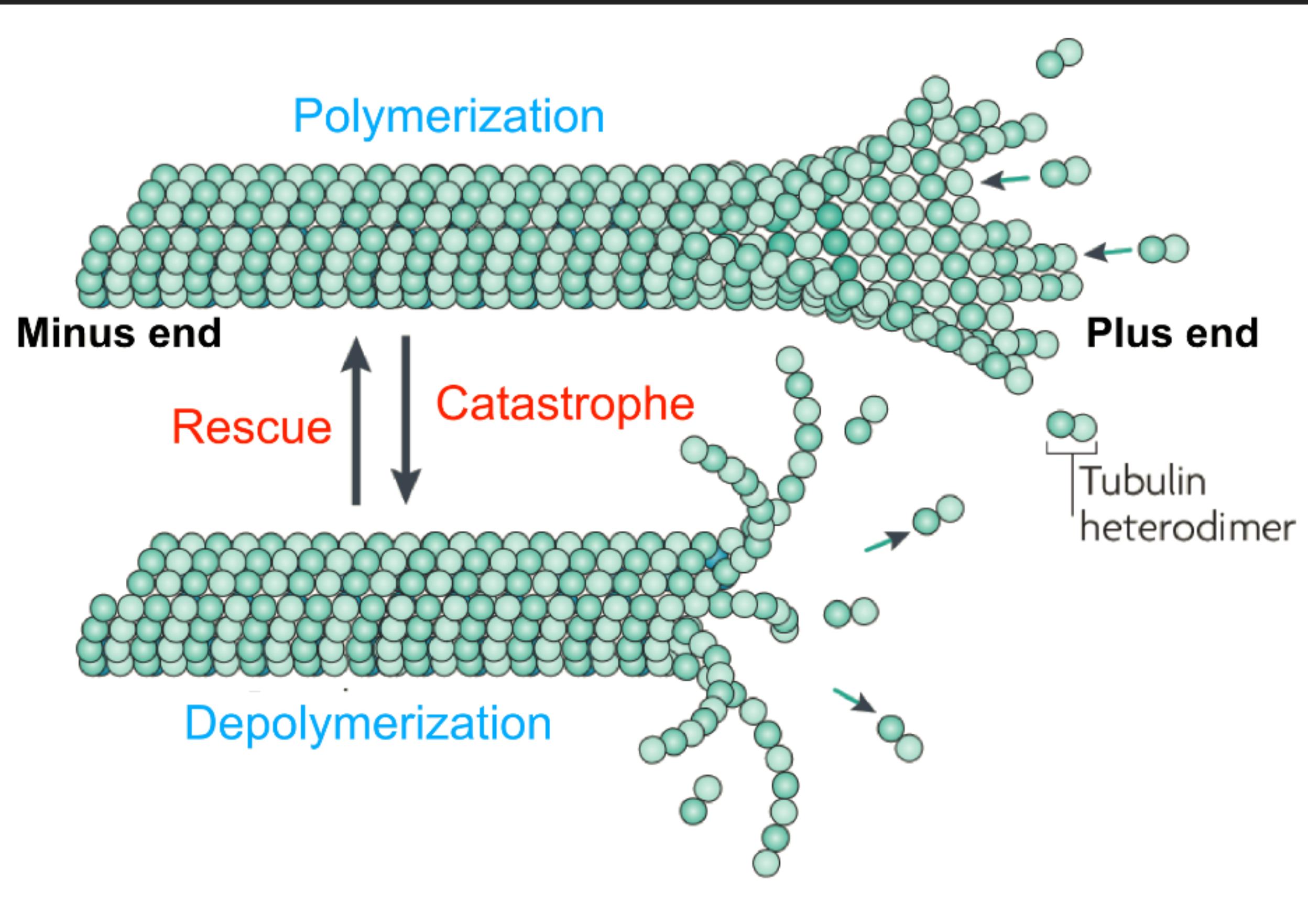


Les microtubules



(Nogales, 2009)

Les microtubules

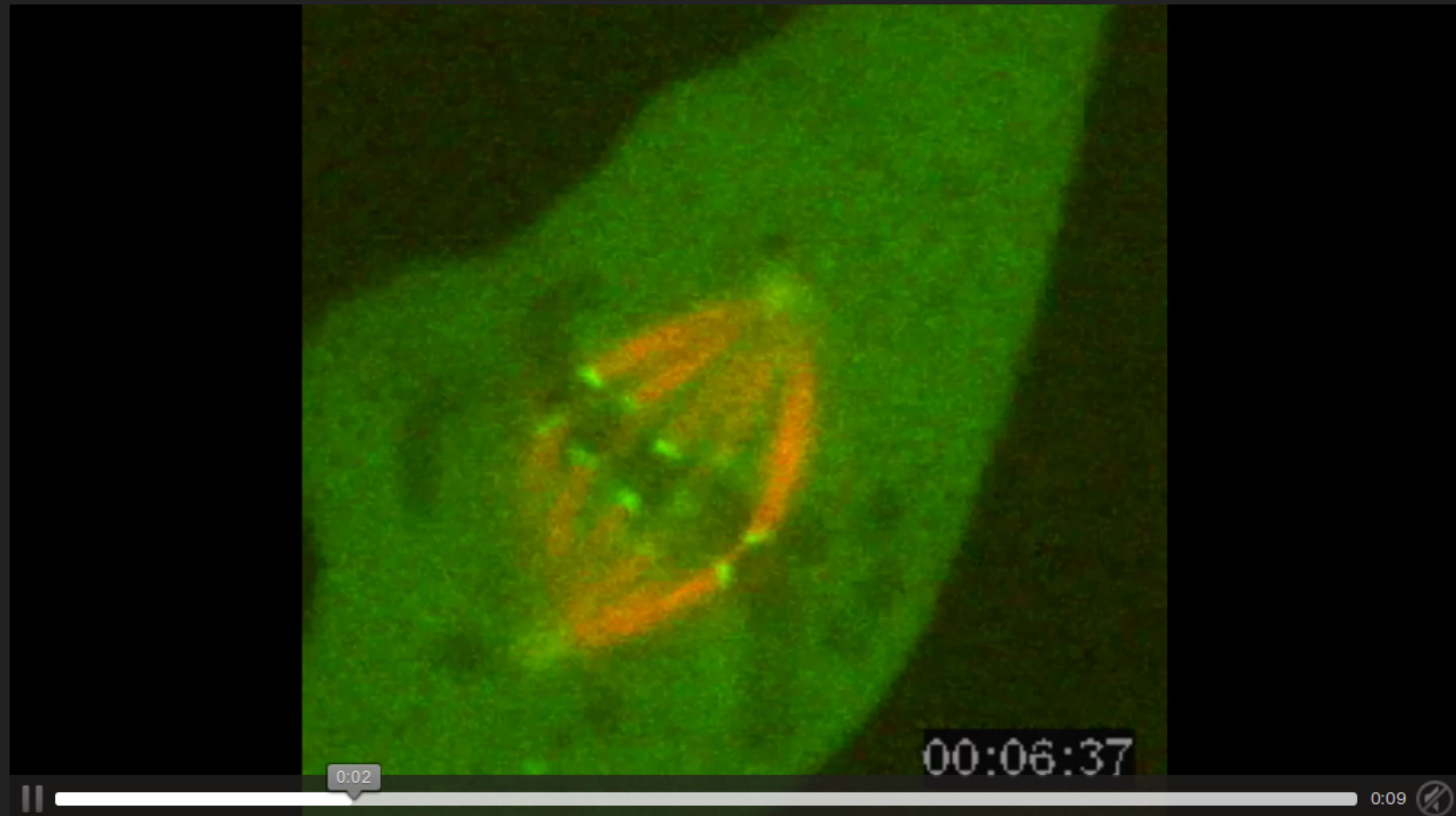


L'attachement entre le kinétochore et les microtubules



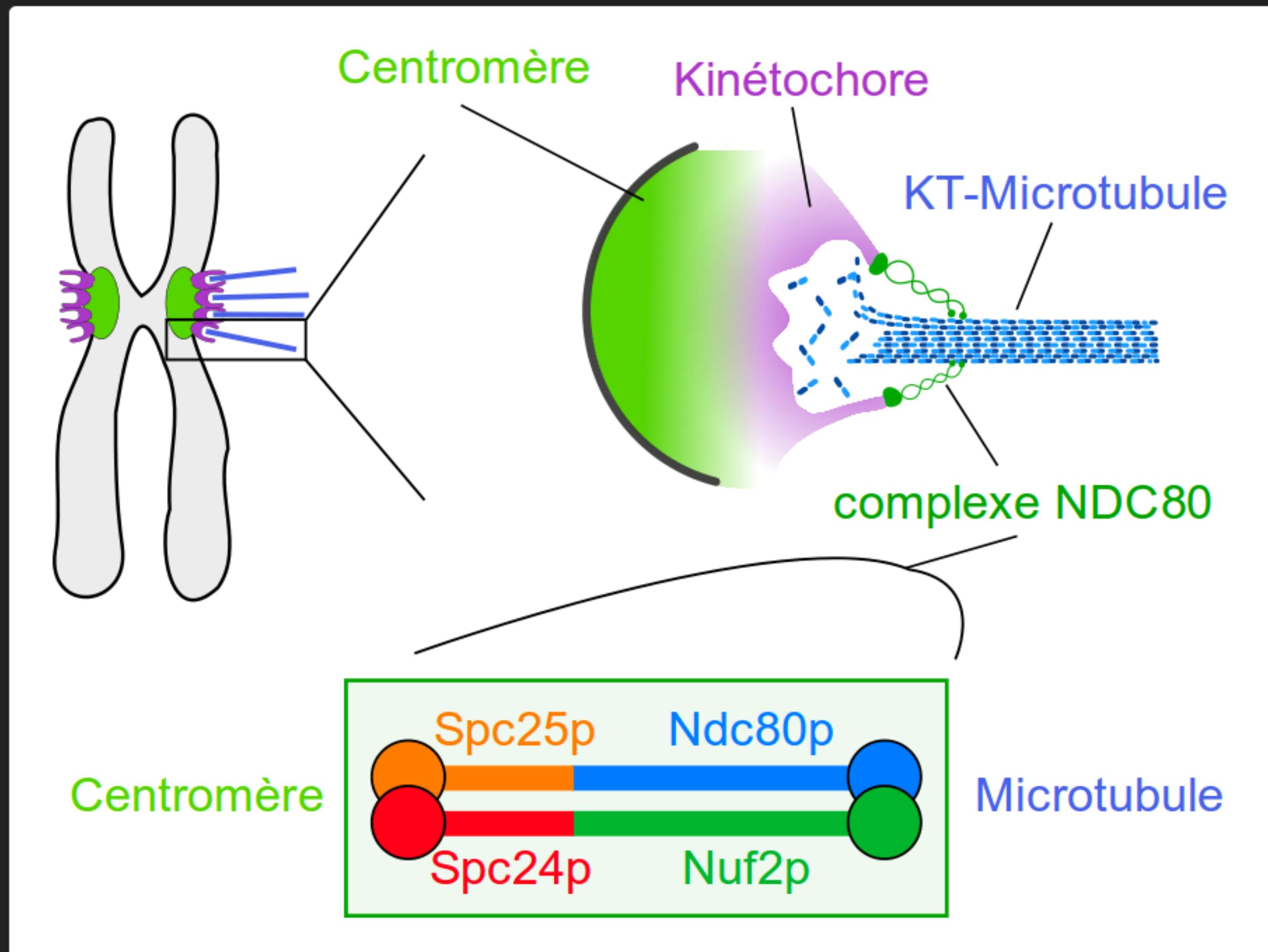
PtK1 cell, Cimini, 2004

L'attachement entre le kinétochore et les microtubules

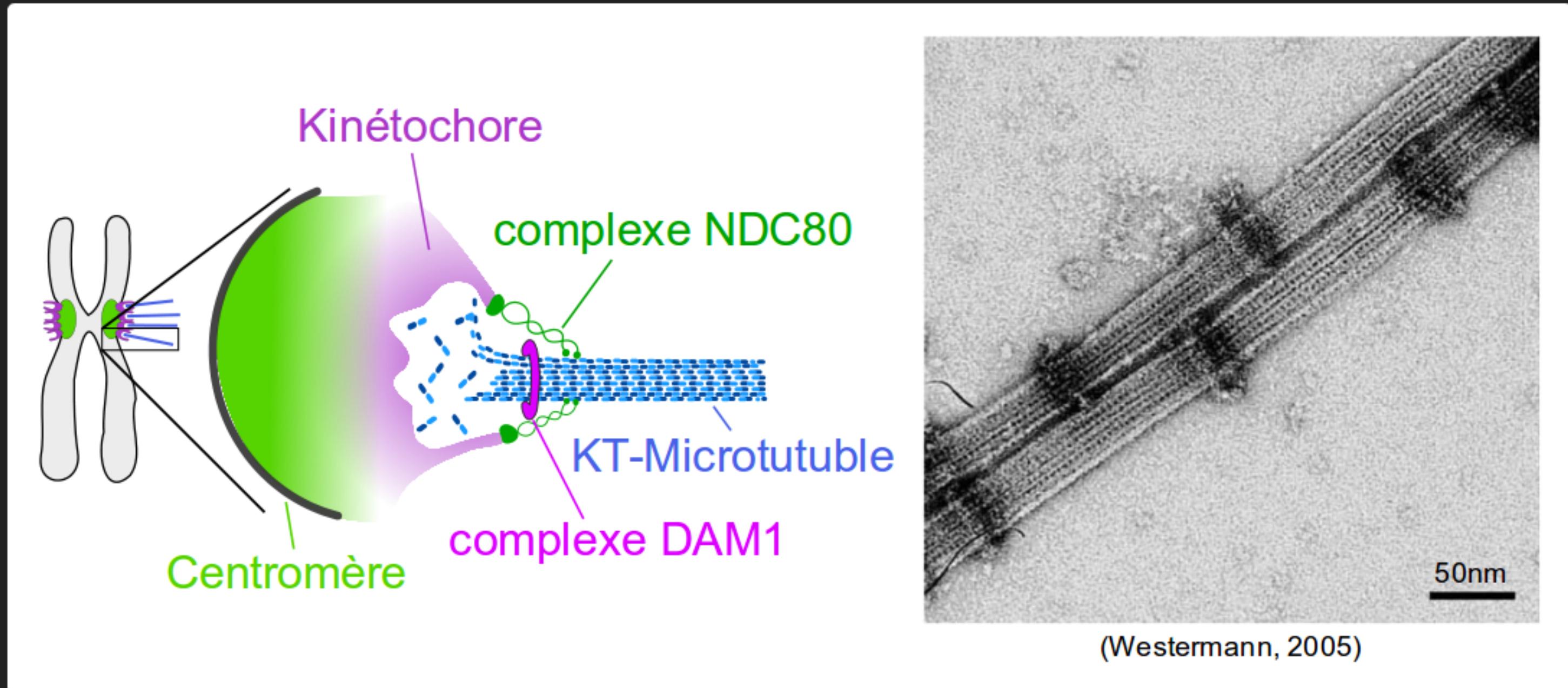


PtK1 cell, Cimini, 2004

L'attachement : le complexe NDC80



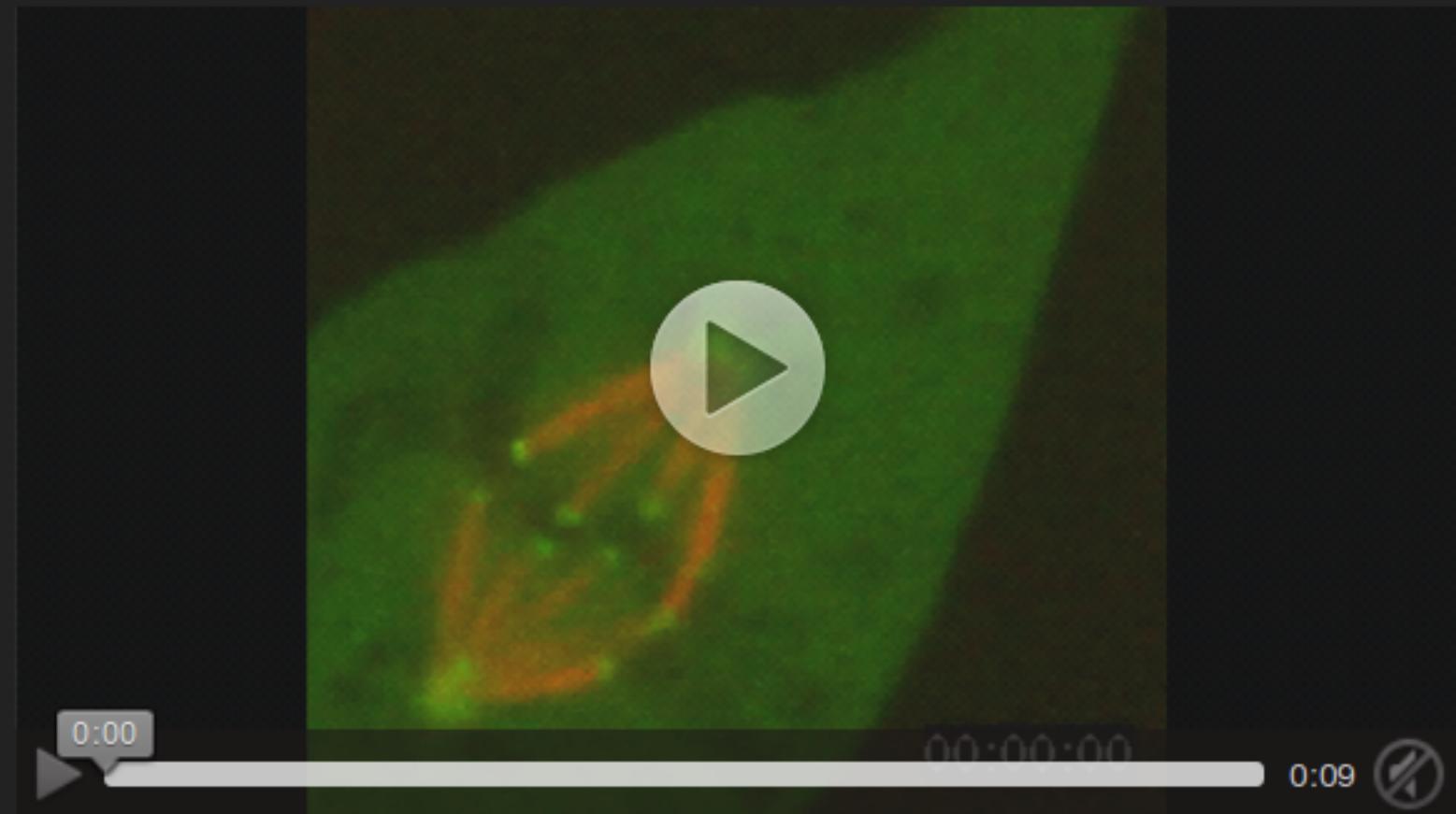
L'attachement : le complexe DAM1



Les kinésines

Le fuseau mitotique

La métaphase : point d'orgue de la division cellulaire

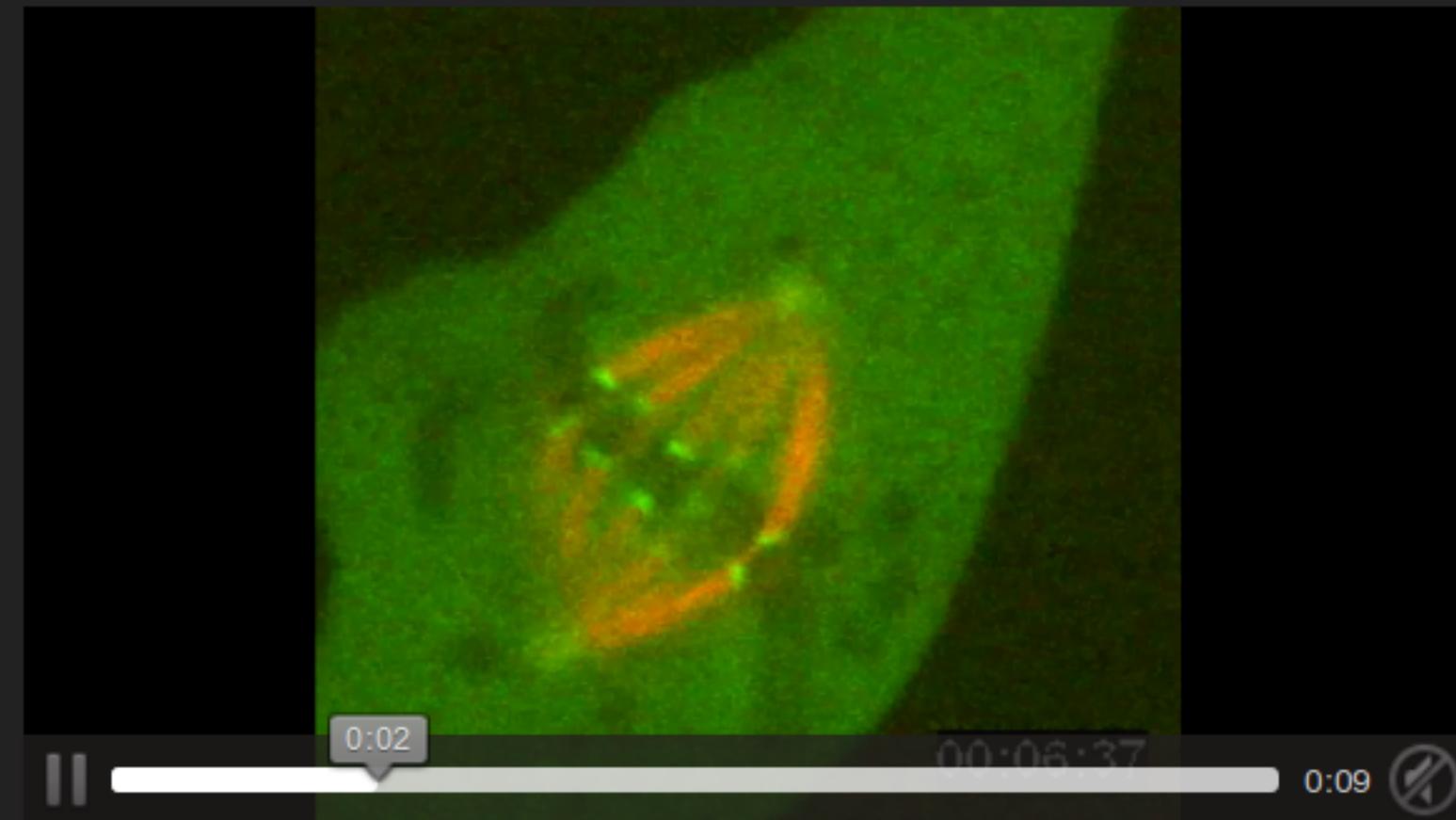


PtK1 cell, Cimini, 2004



HeLa cell, Stumpff, 2008

La métaphase : point d'orgue de la division cellulaire

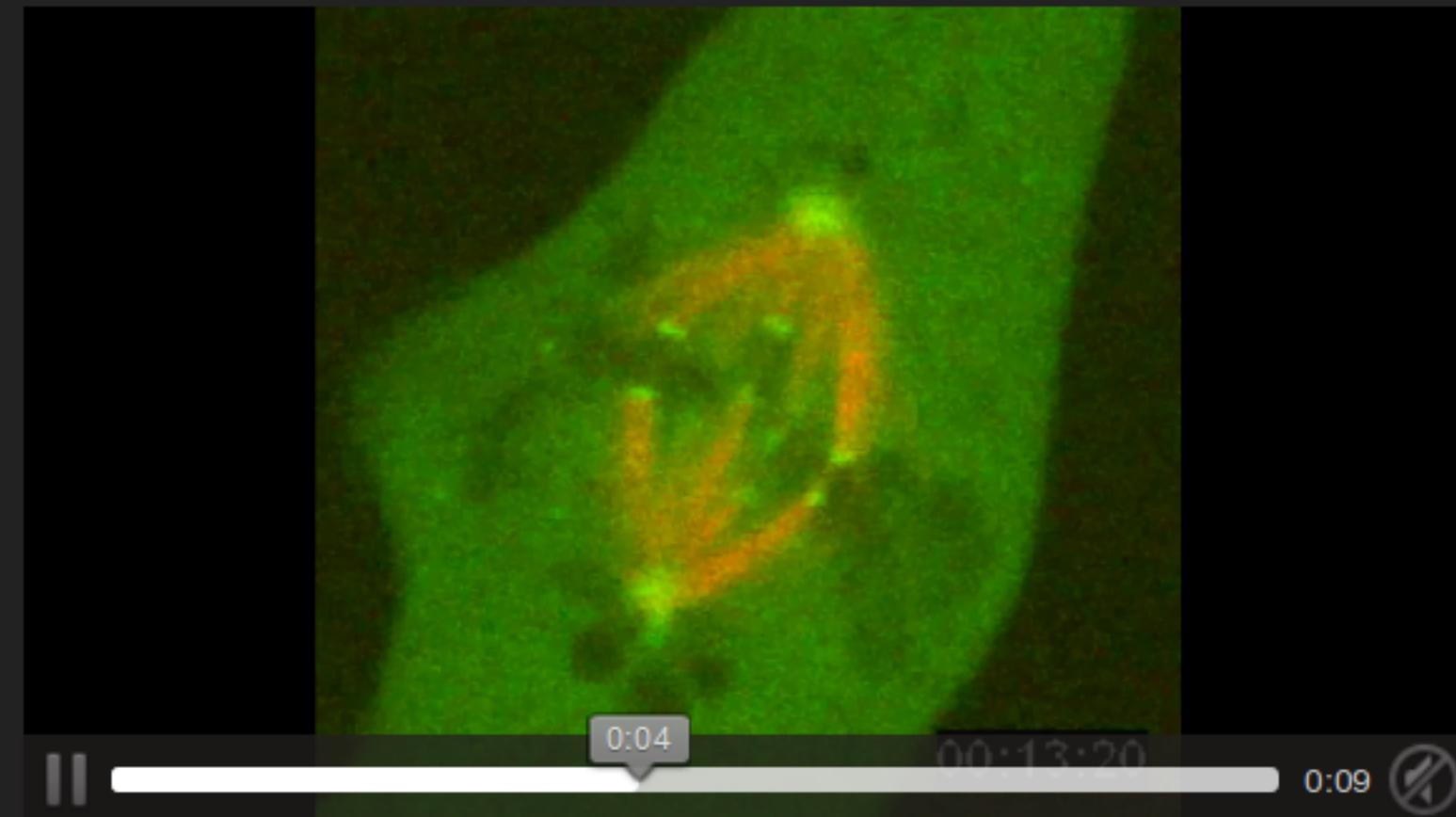


PtK1 cell, Cimini, 2004



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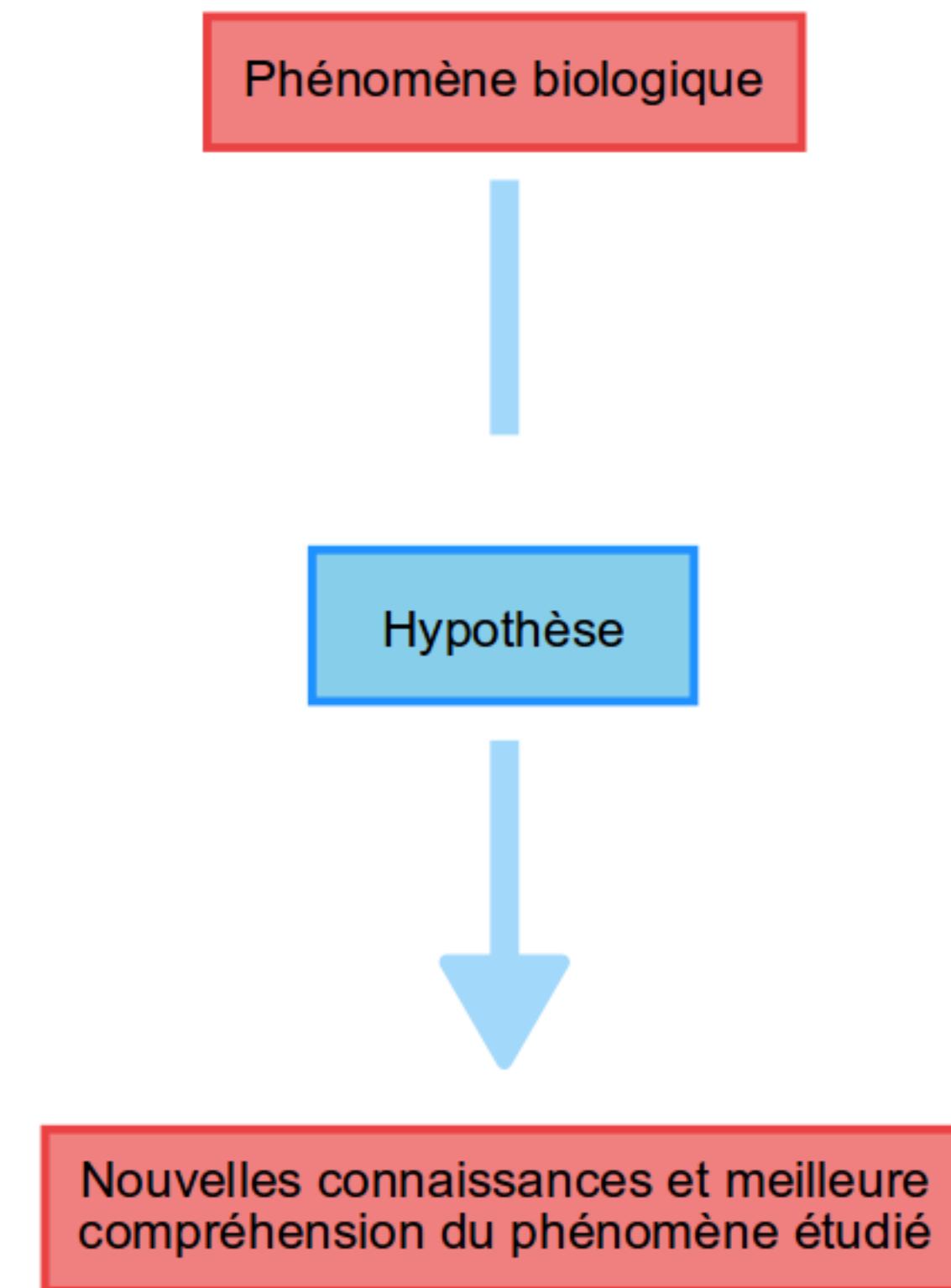


PtK1 cell, Cimini, 2004

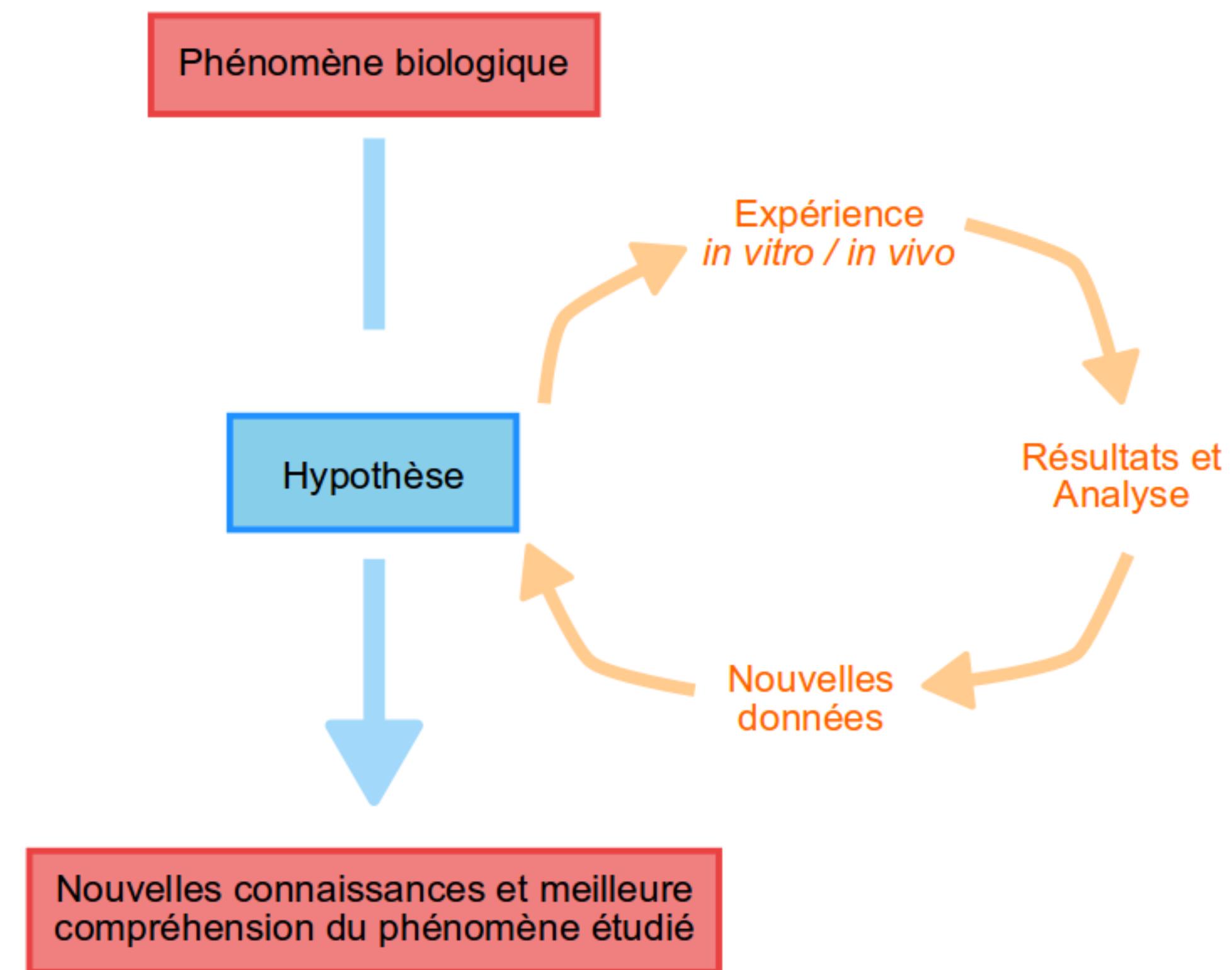


HeLa cell, Stumpff, 2008

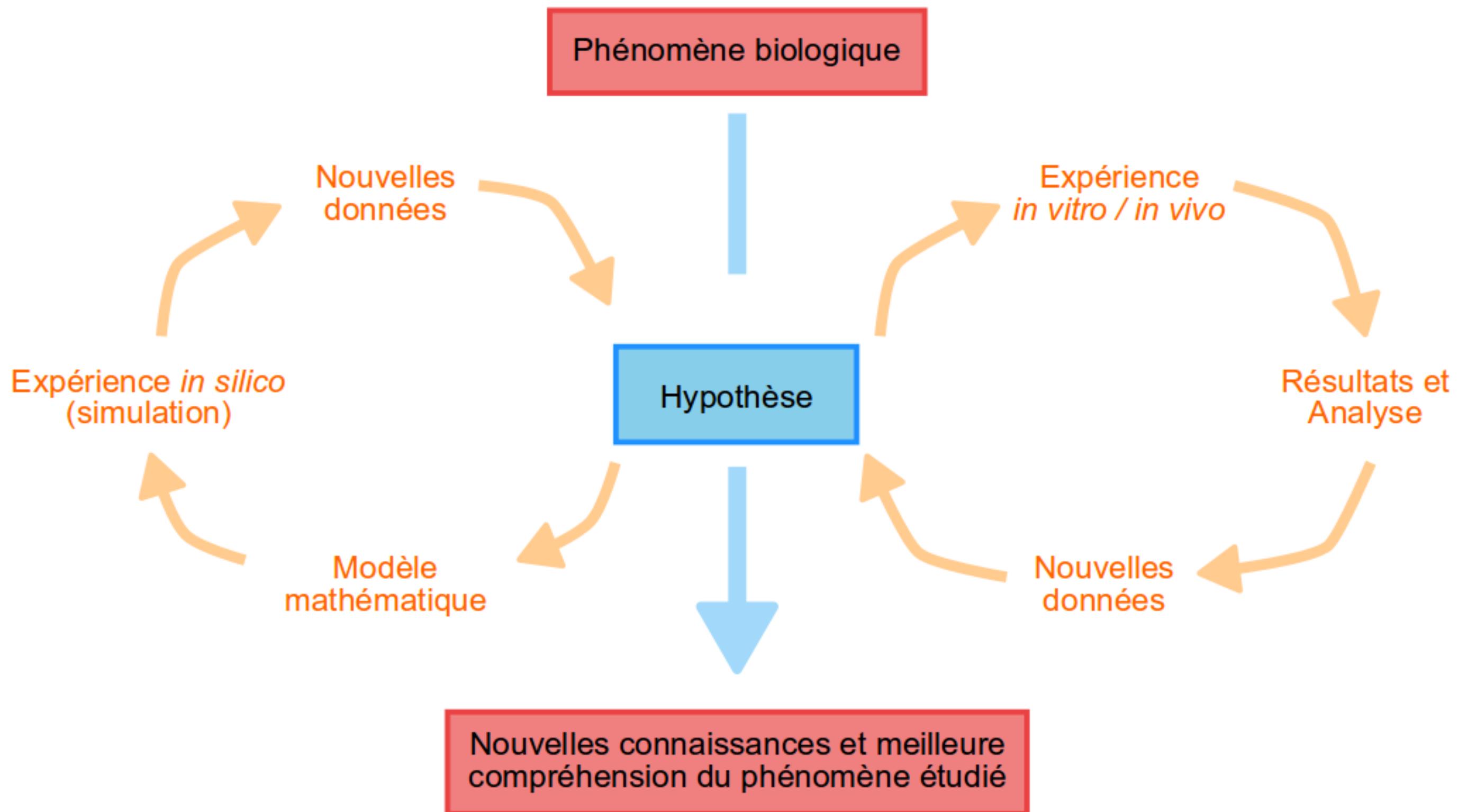
La modélisation en biologie



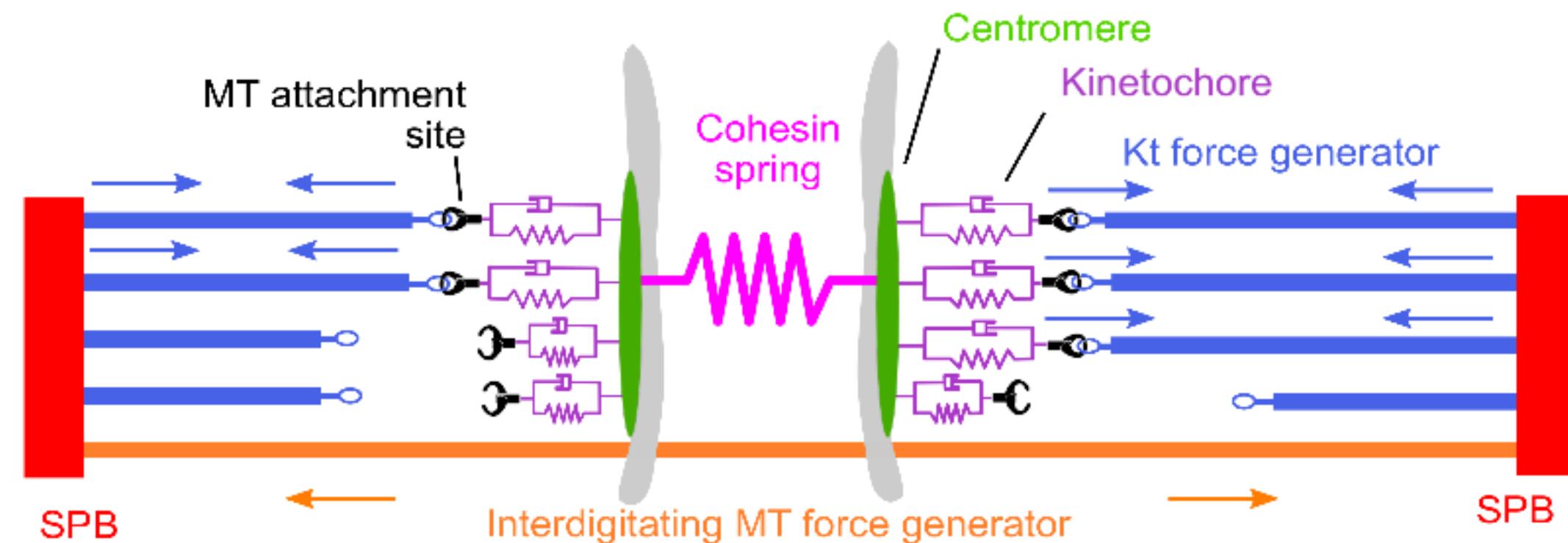
La modélisation en biologie



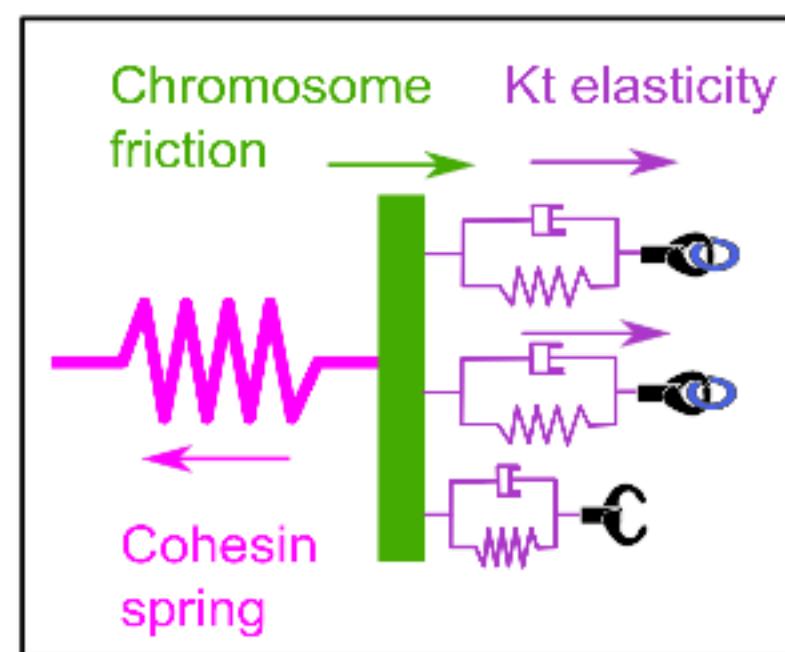
La modélisation en biologie



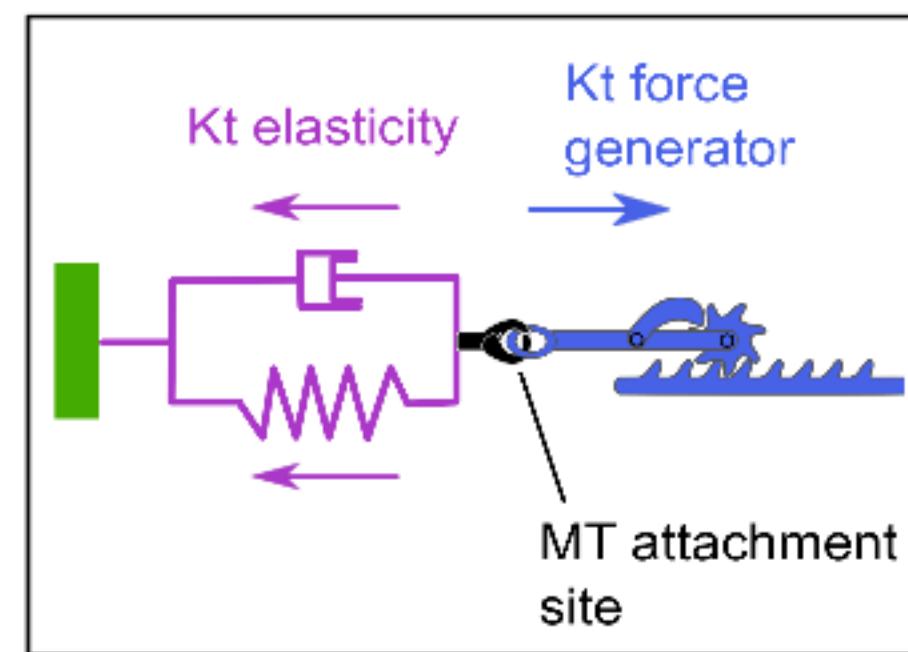
Modélisation mathématique de la ségrégation des chromosomes : la théorie



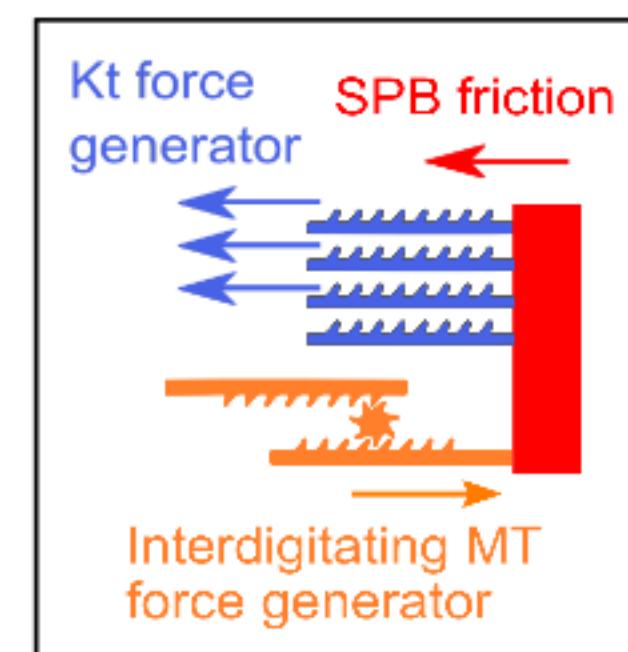
Centromere force balance



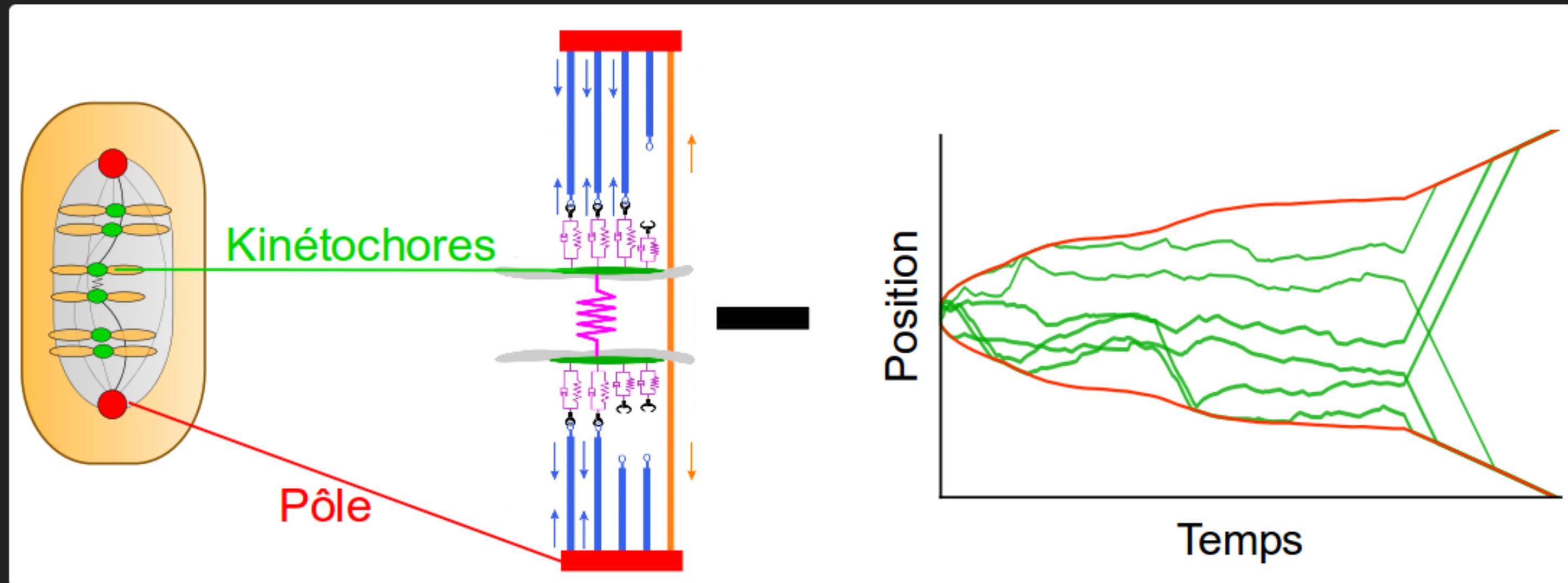
Attachment site force balance



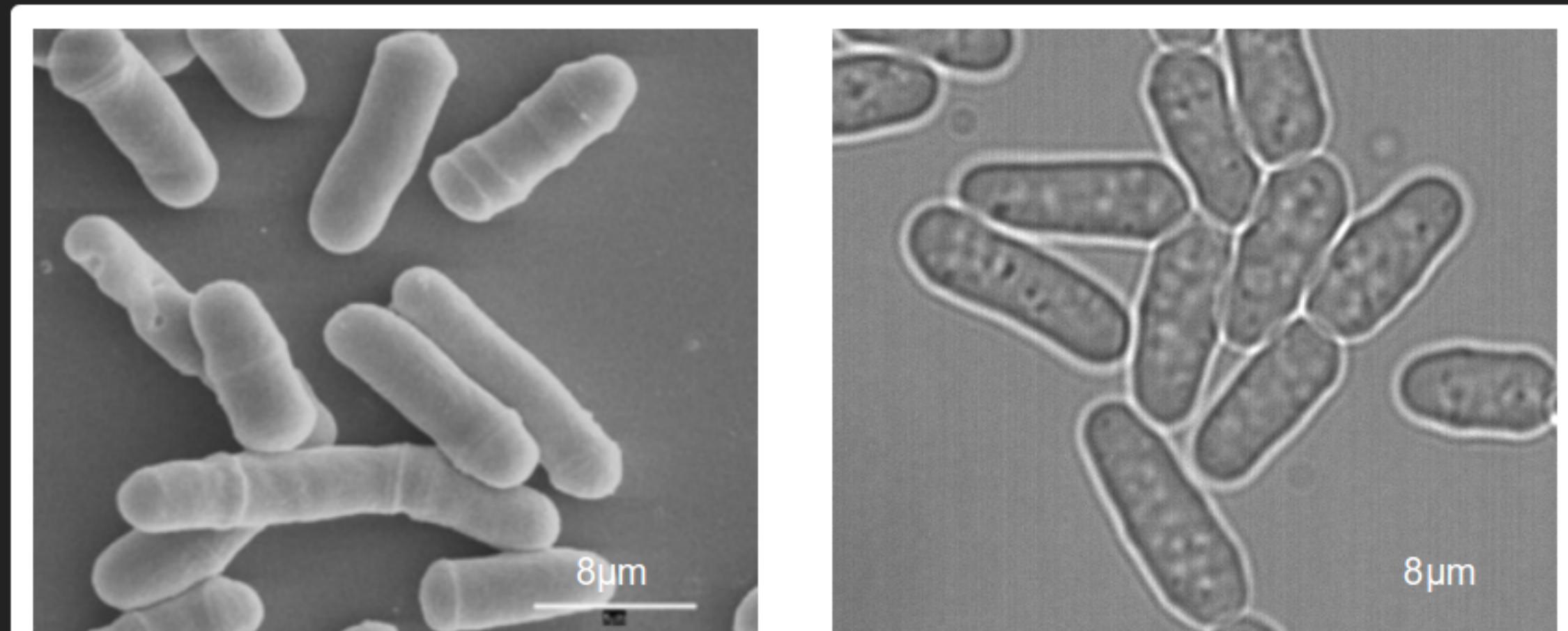
SPB force balance



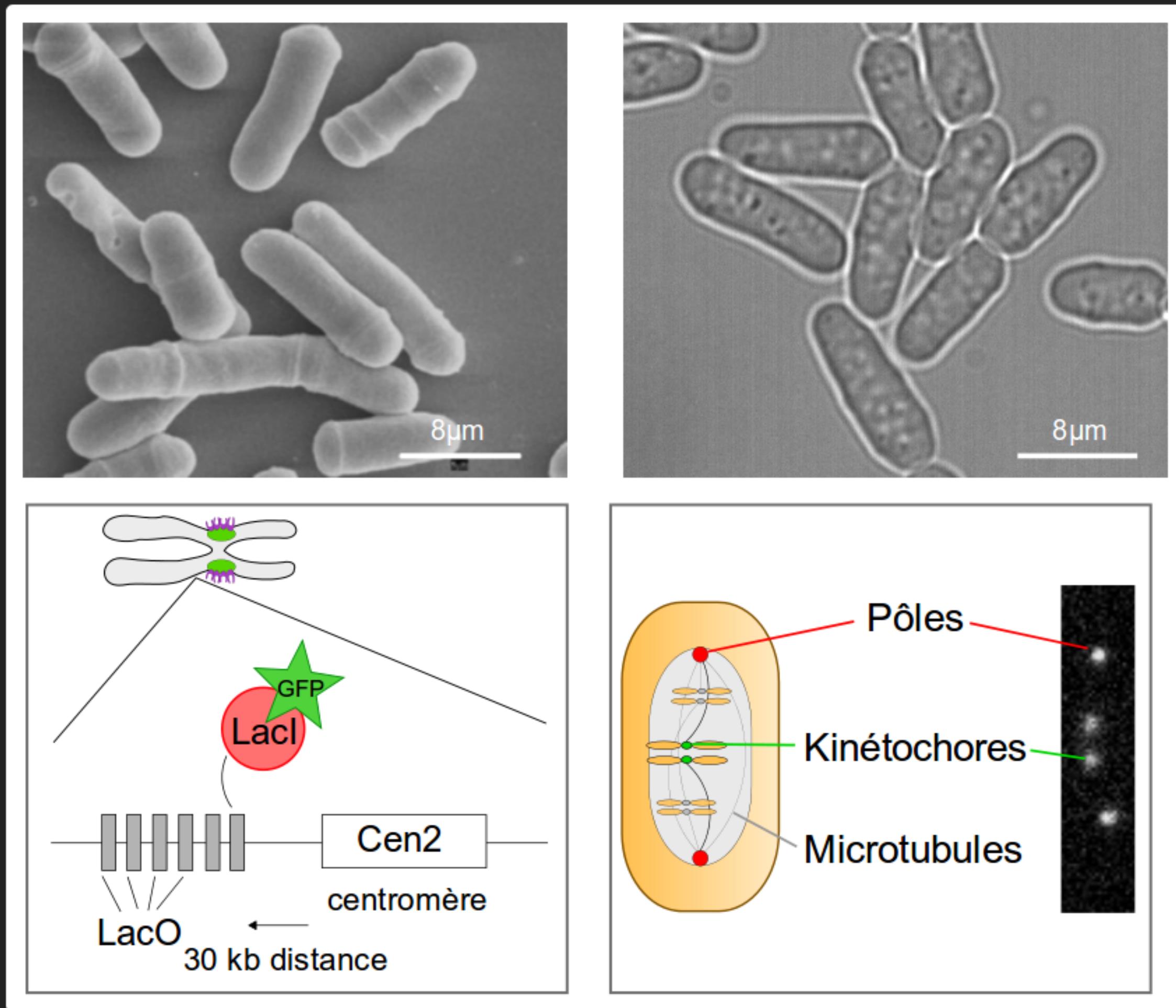
Modélisation mathématique de la ségrégation des chromosomes : la pratique



Un modèle biologique idéal : *Schizosaccharomyces pombe*



Un modèle biologique idéal : *Schizosaccharomyces pombe*



Résultats

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Discussion

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Remerciement

Equipe Tournier-Gachet (LBCMCP)

- Céline Reyes
- Tong Li
- Simon Cabello
- Yannick Gachet
- Sylvie Tournier

Autres

- Guillaume Gay (damcb.com)
- Jonathan Fouchard
- Tiphaine Gautier
- Clémence Gruget
- Thomas Mangeat



Ce travail de thèse a été soutenu par ANR Blanc 1206 01 "Chromocatch" et FRM (ING 2012 1226 280) "innovative project".

Merci

Les supp