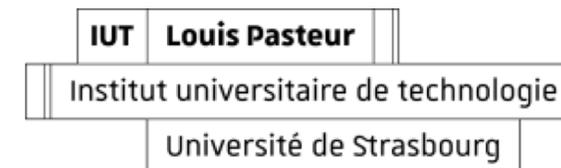


Réactiver le VIH pour mieux l'éliminer de l'organisme : un pas vers la guérison ?

Jeanne Van Assche

EA 7292- DHPI - Equipe VIH

IUT Louis Pasteur – Université de Strasbourg



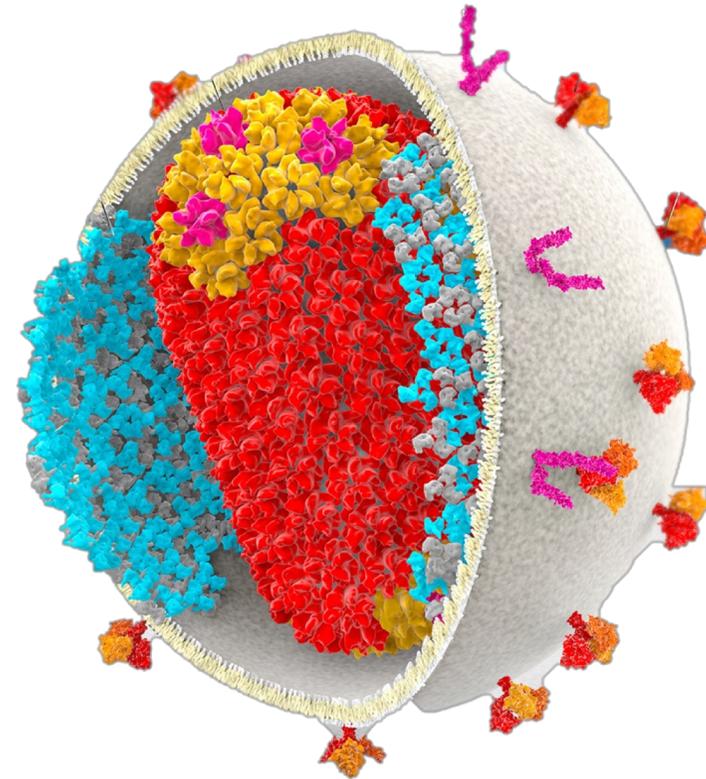
Plan

I- Introduction

- 1) Le VIH
- 2) La latence virale
- 3) Le projet de thèse

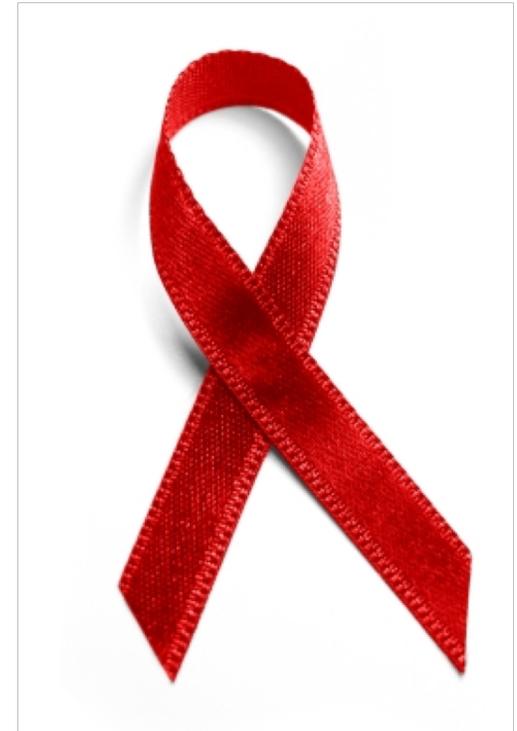
II- Résultats expérimentaux

III- Conclusion et perspectives

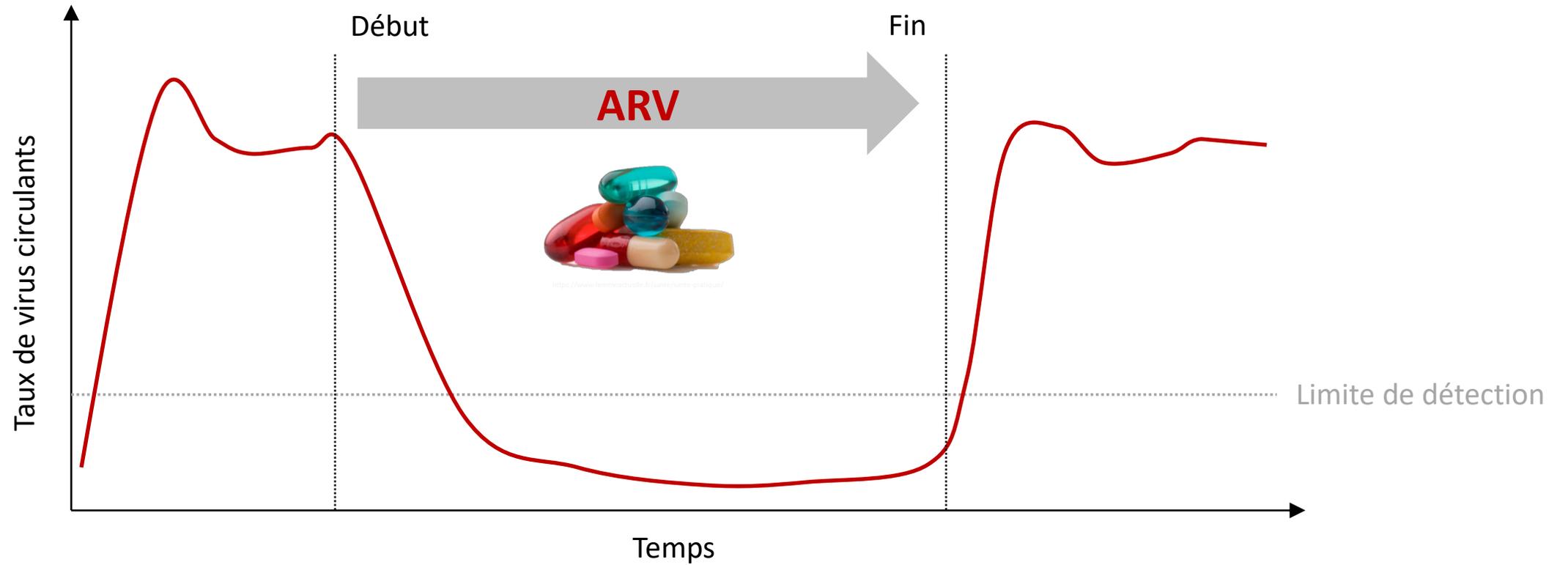


Le **V**irus de l'**I**mmunodéficience **H**umaine

- Responsable du **SIDA**
 - **36,7 millions** de personnes vivent avec le VIH
 - **35 millions** de morts
 - **21,7 millions** de personnes sous ARV
 - **1 unique** cas recensé de guérison
- **Pas de traitement** permettant la guérison

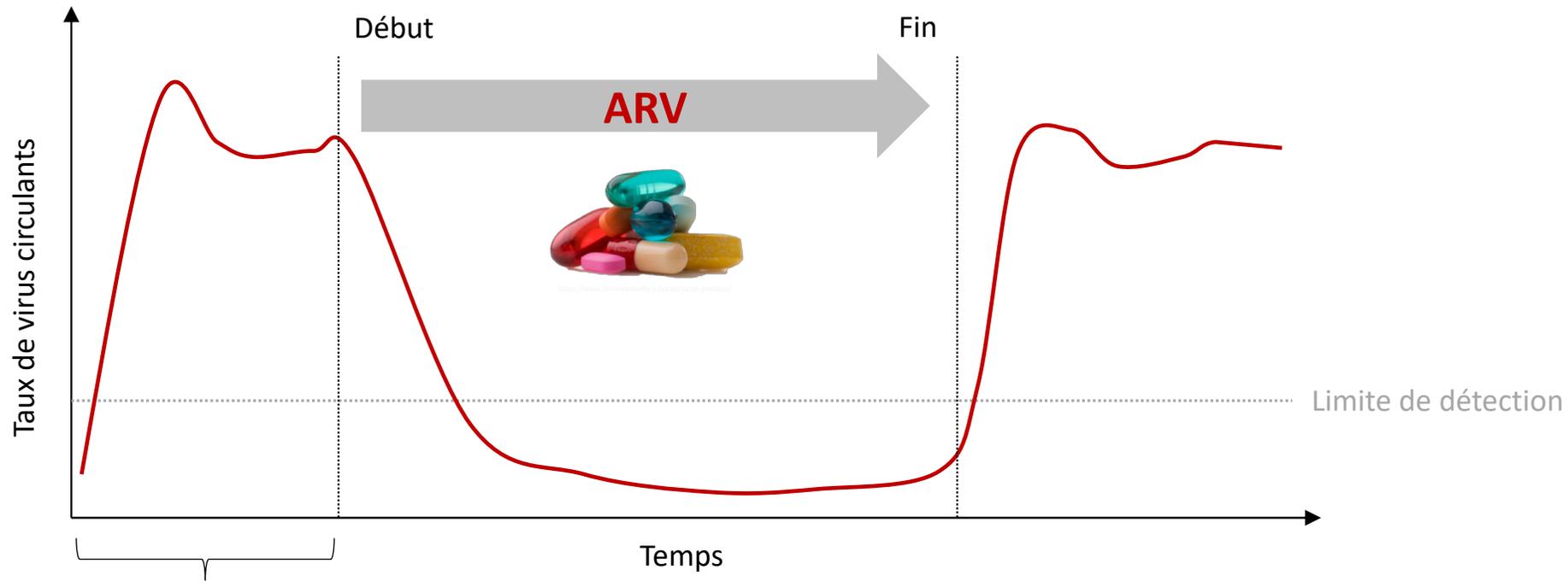


L'infection au VIH au cours du temps



D'après Smith, MD, at Los Angeles, CA: April 25, 2016, IAS-USA

L'infection au VIH au cours du temps

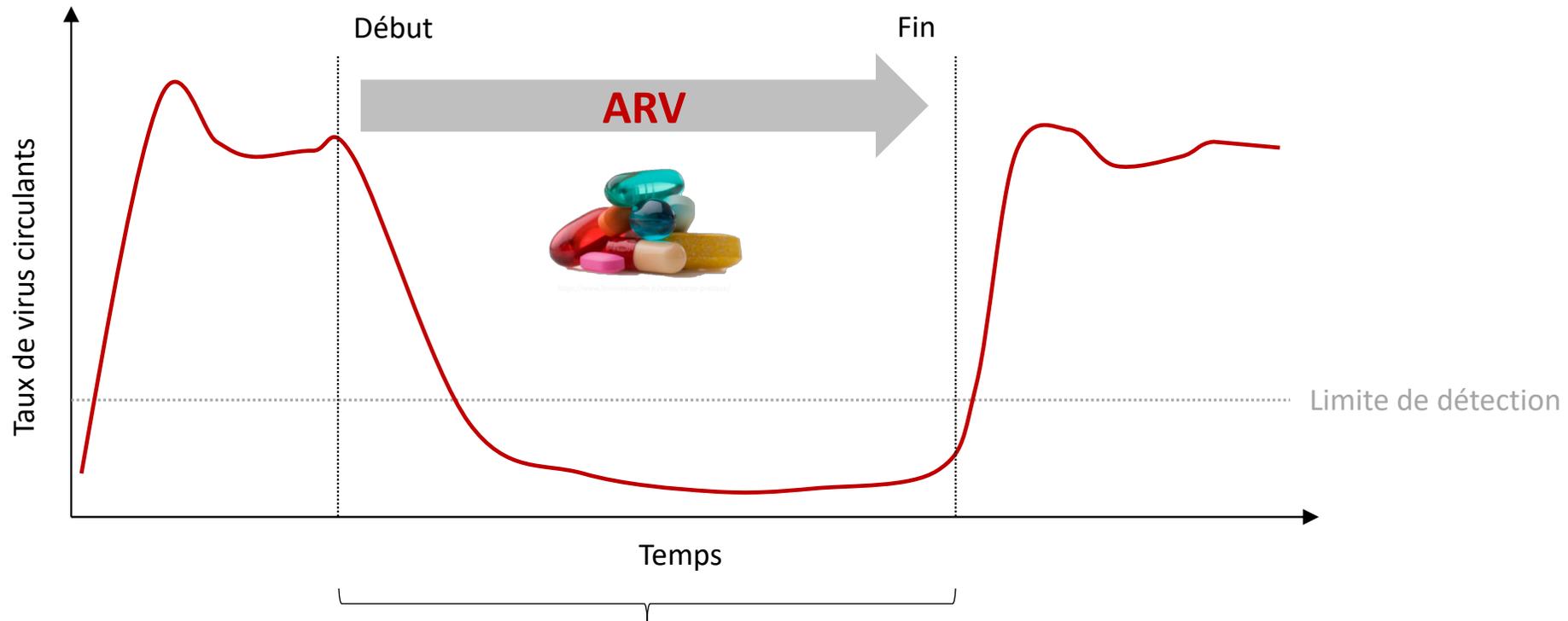


Début de l'infection

→ Augmentation de la charge virale

D'après Smith, MD, at Los Angeles, CA: April 25, 2016, IAS-USA

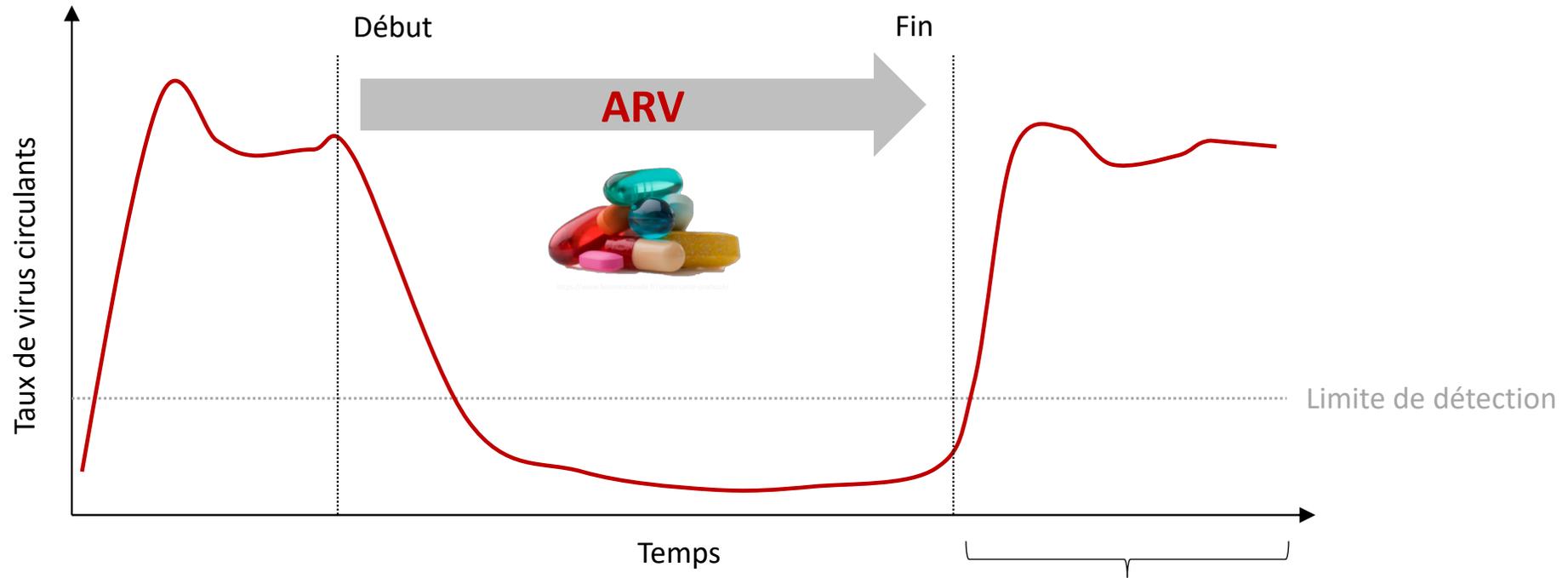
L'infection au VIH au cours du temps



Prise des antirétroviraux
→ Chute de la charge virale

D'après Smith, MD, at Los Angeles, CA: April 25, 2016, IAS-USA

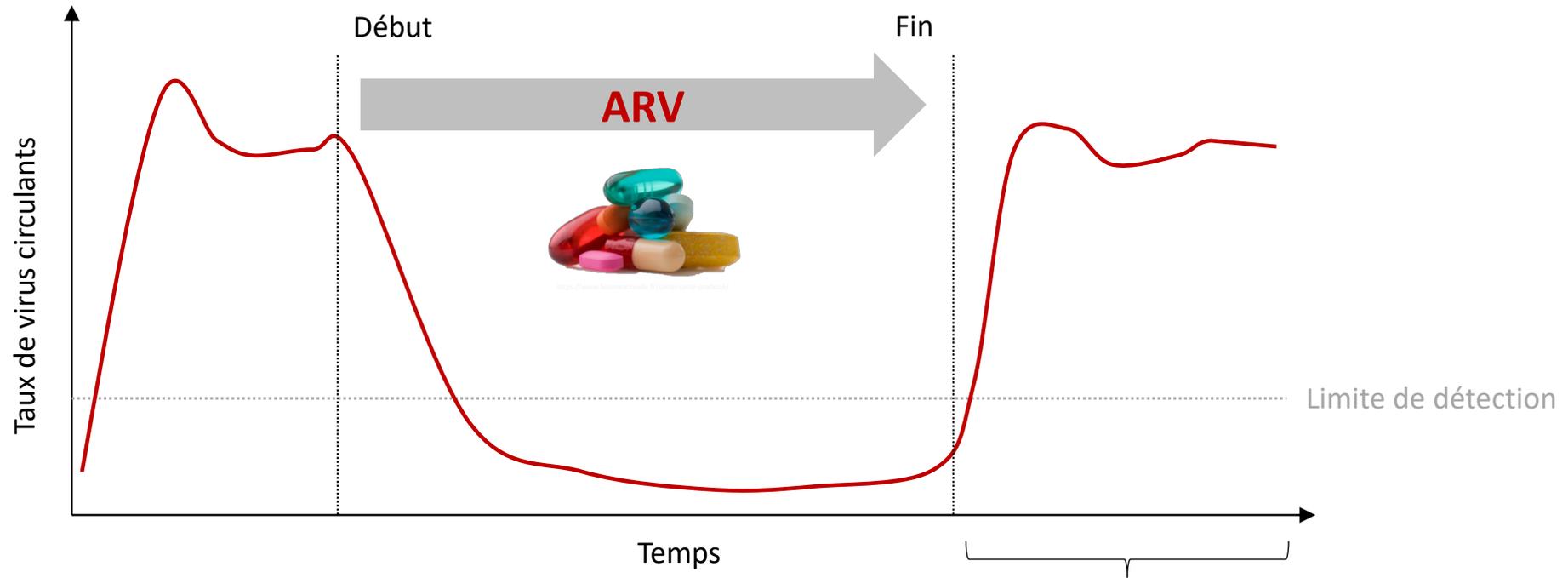
L'infection au VIH au cours du temps



Arrêt des antirétroviraux
→ Augmentation de la charge virale

D'après Smith, MD, at Los Angeles, CA: April 25, 2016, IAS-USA

L'infection au VIH au cours du temps



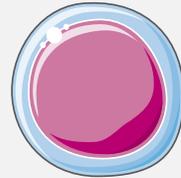
→ Virus résiduels malgré le traitement

D'après Smith, MD, at Los Angeles, CA: April 25, 2016, IAS-USA

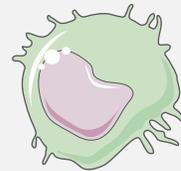
Les réservoirs du VIH

Réservoirs cellulaires

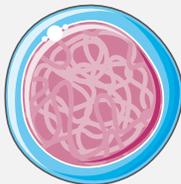
Lymphocytes T CD4 +



Monocytes / Macrophages



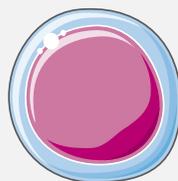
Cellules souches hématopoïétiques



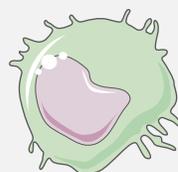
Les réservoirs du VIH

Réservoirs cellulaires

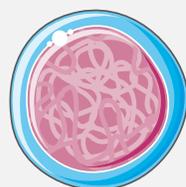
Lymphocytes T CD4 +



Monocytes / Macrophages

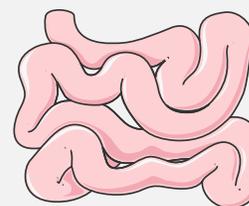


Cellules souches hématopoïétiques

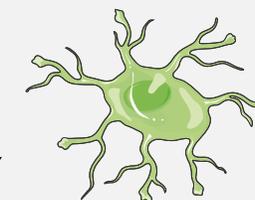


Réservoirs anatomiques

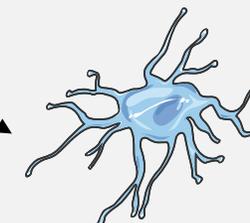
GALT



SNC



Astrocytes

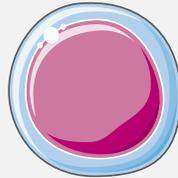


Cellules microgliales

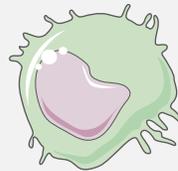
Les réservoirs du VIH

Réservoirs cellulaires

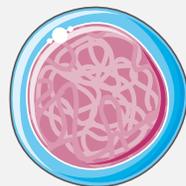
Lymphocytes T CD4 +



Monocytes / Macrophages

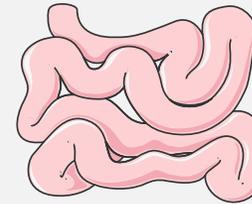


Cellules souches hématopoïétiques

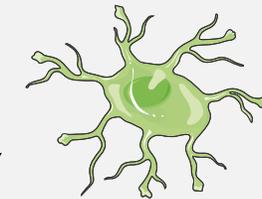
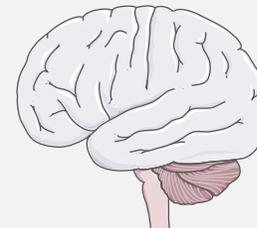


Réservoirs anatomiques

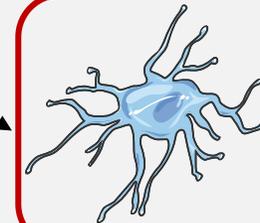
GALT



SNC

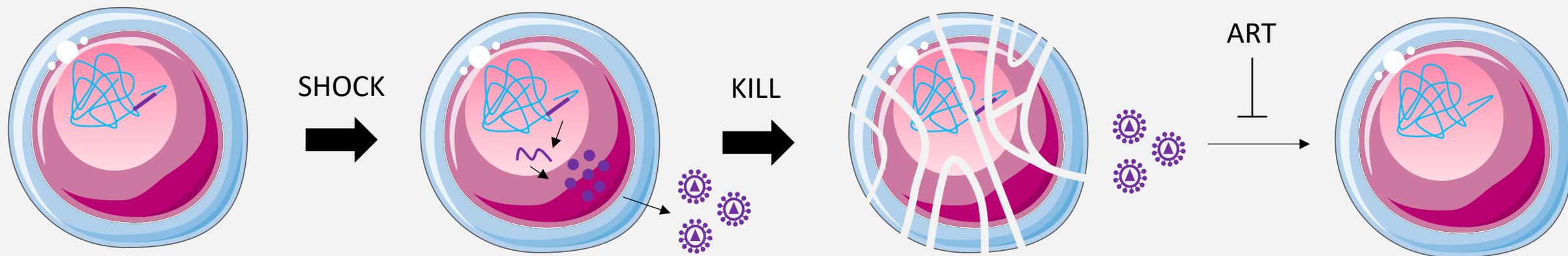


Astrocytes



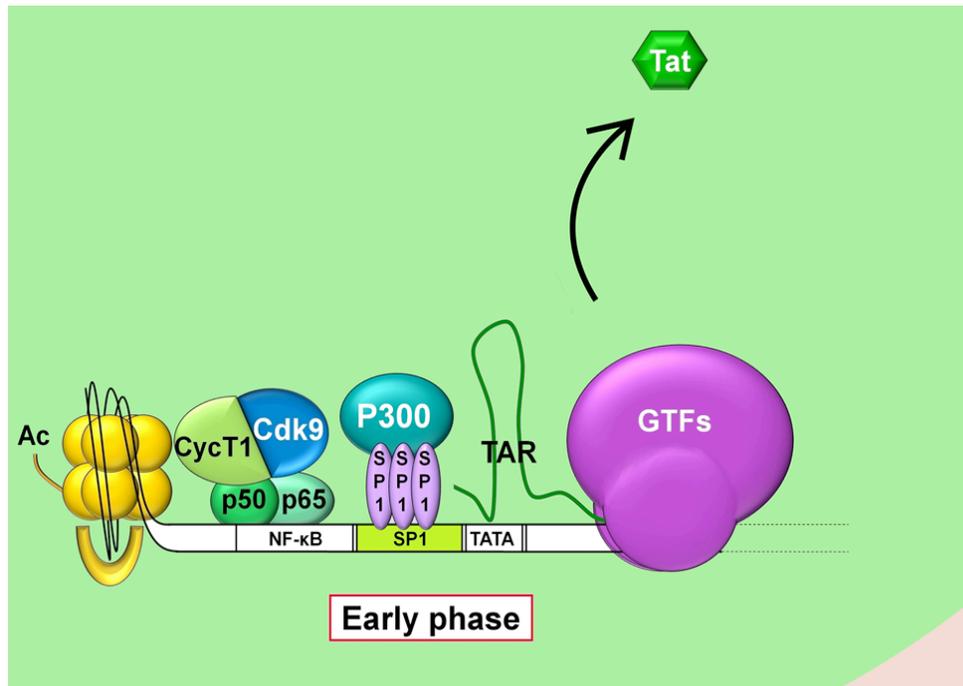
Cellules microgliales

La stratégie de guérison



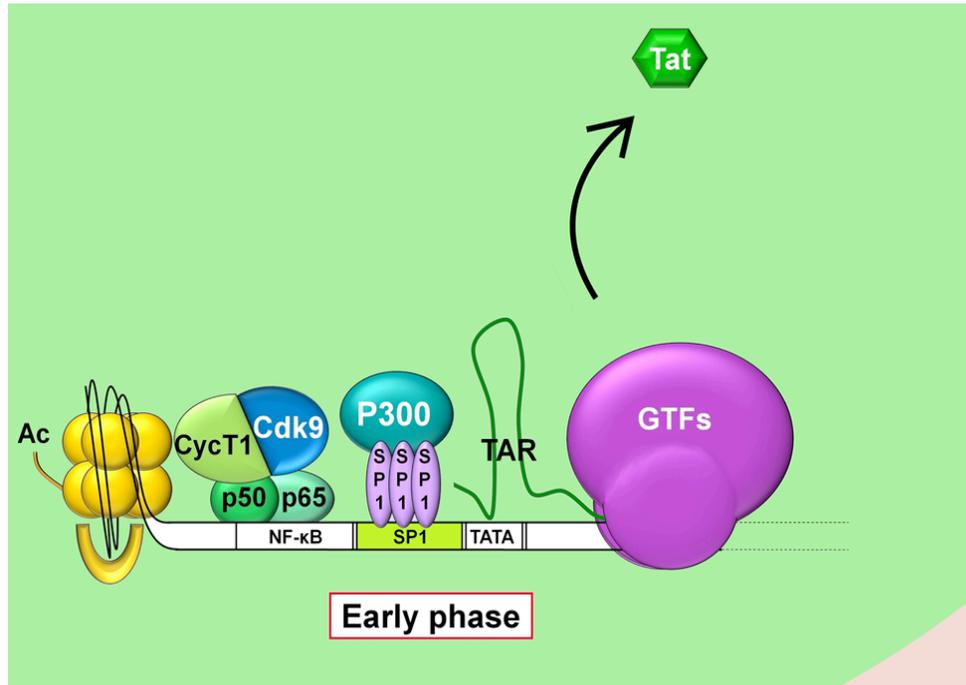
D'après Deeks, S. G. HIV: Shock and kill. **487**, 439 (2012).

La transcription du VIH-1

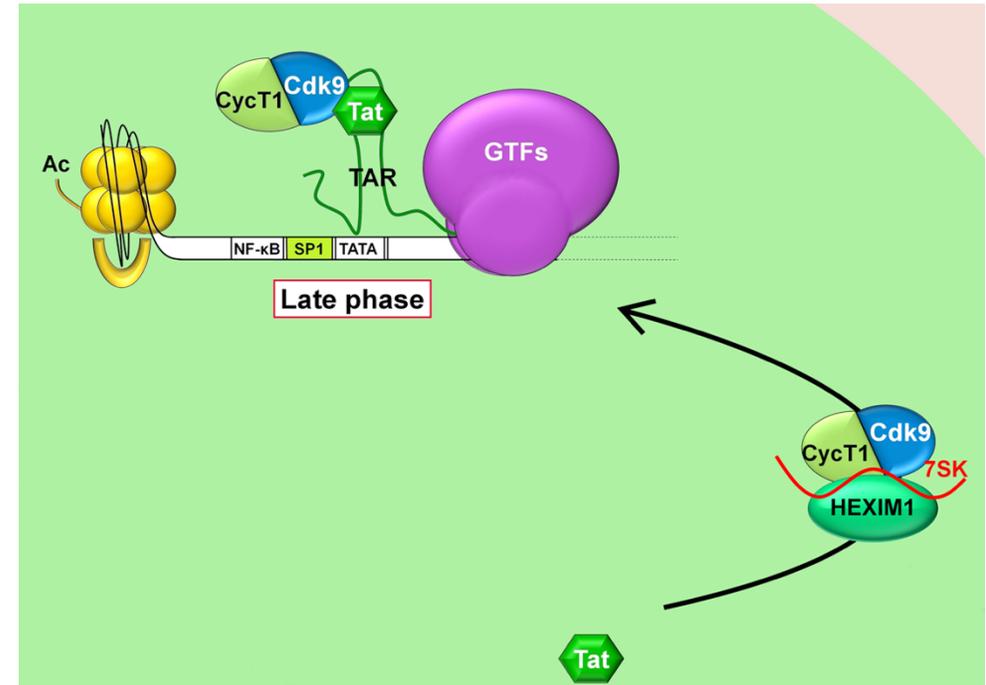


Phase d'initiation

La transcription du VIH-1

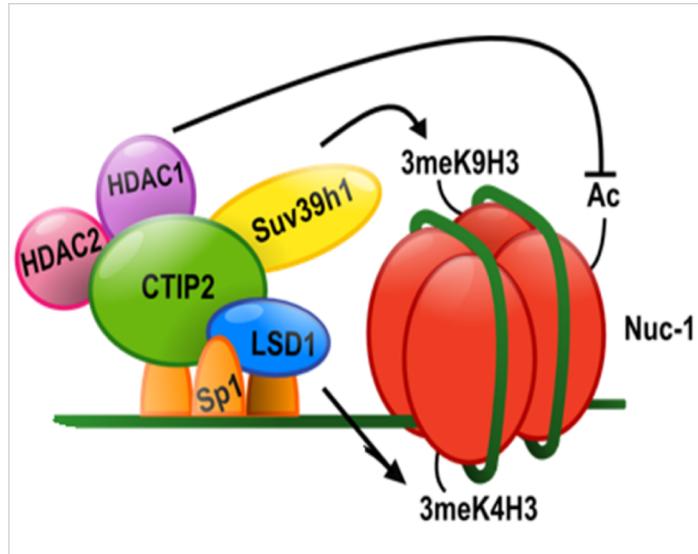


Phase d'initiation



Phase d'élongation

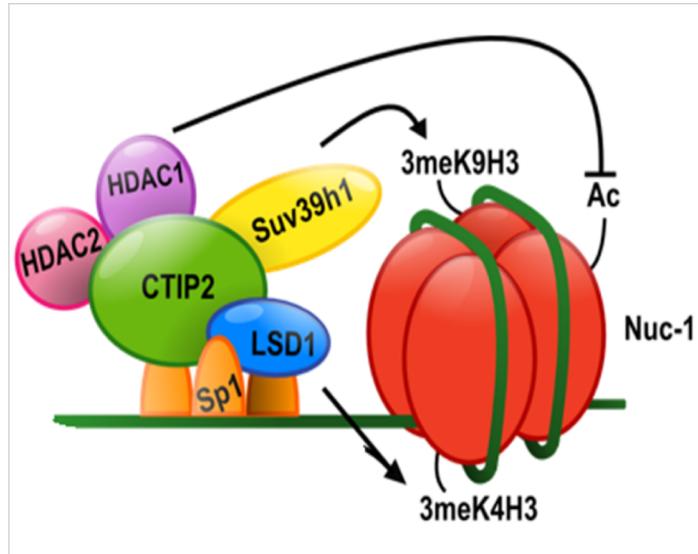
La latence virale dans les cellules microgliales



Le Douce et al., 2014

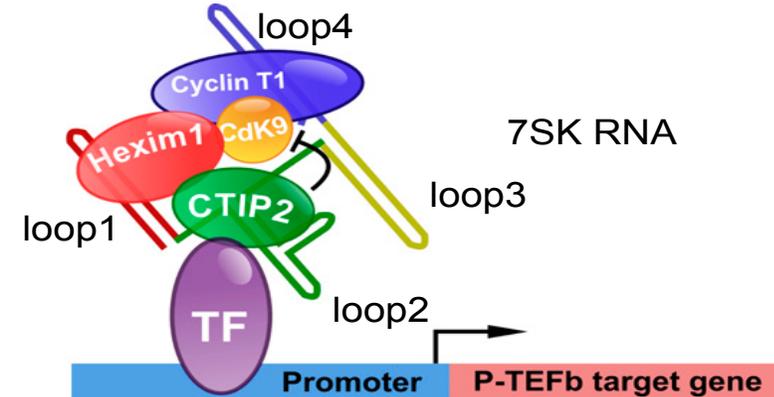
Etablissement de la latence

La latence virale dans les cellules microgliales



Le Douce et al., 2014

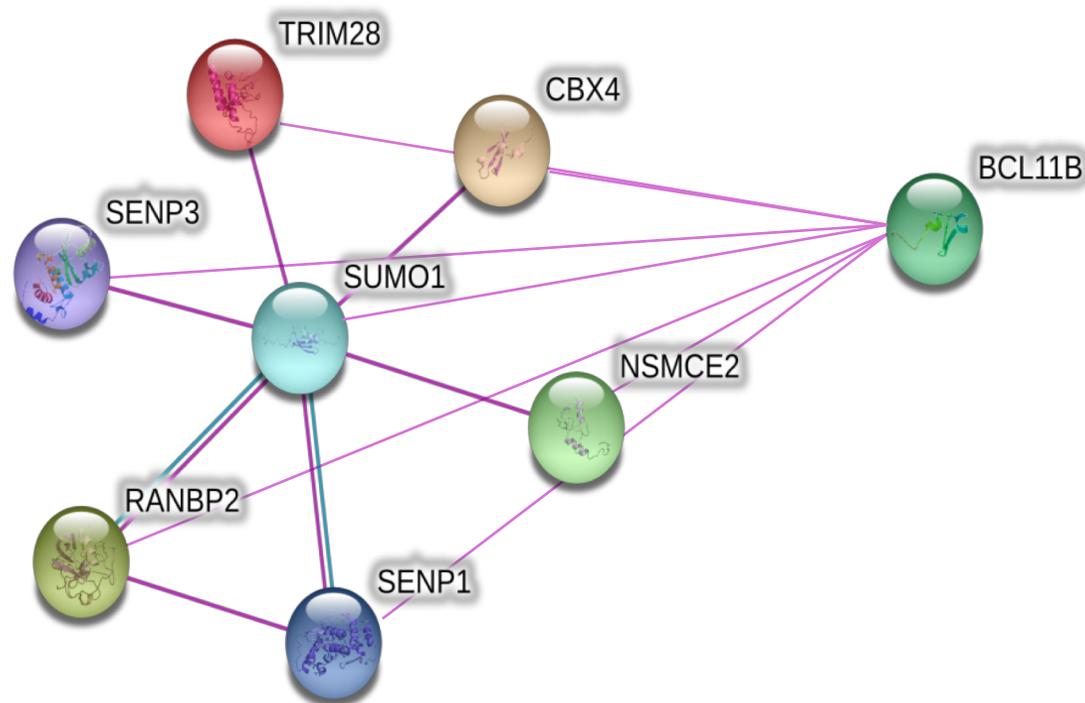
Etablissement de la latence



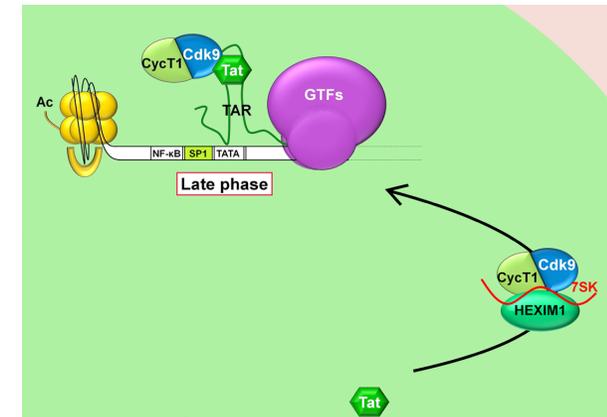
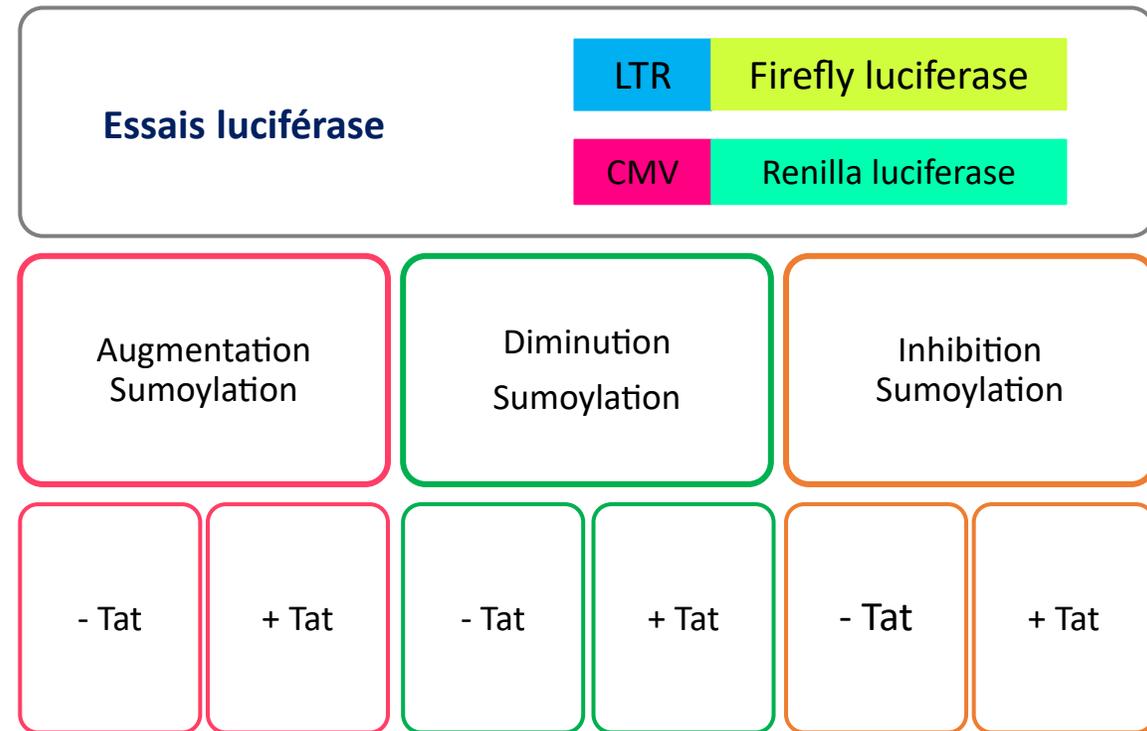
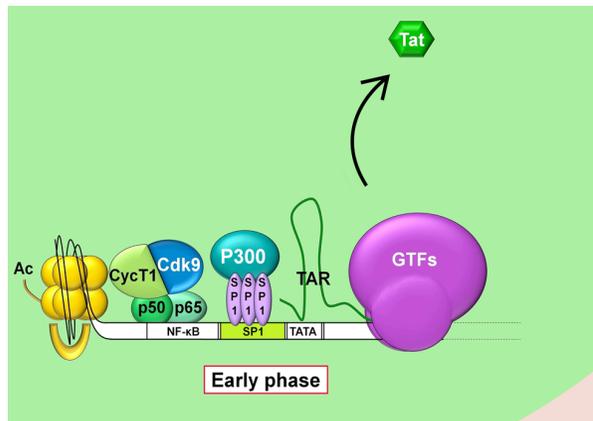
Cherrier et al., 2013

Maintien de la latence

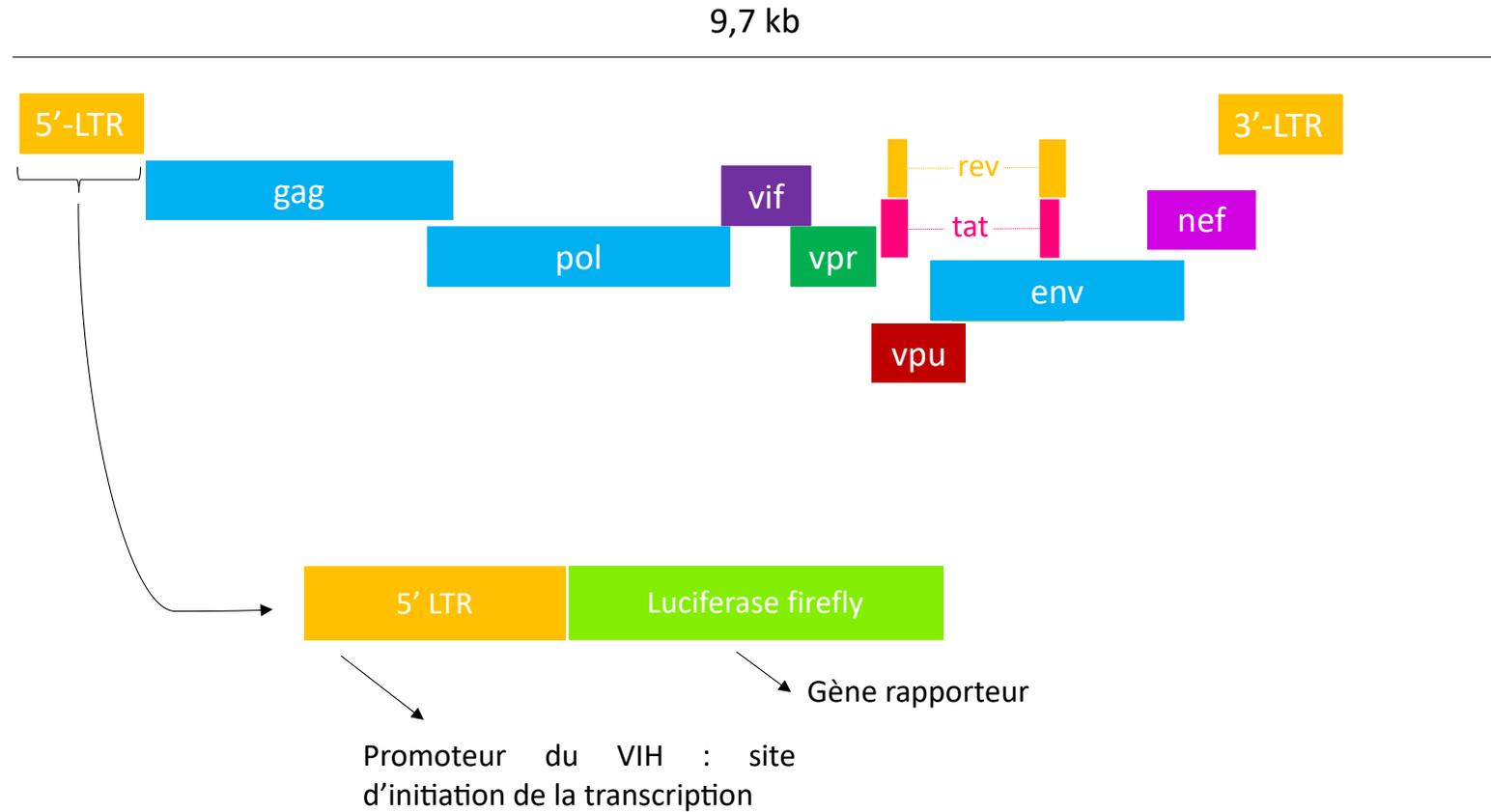
CTIP2 et la sumoylation



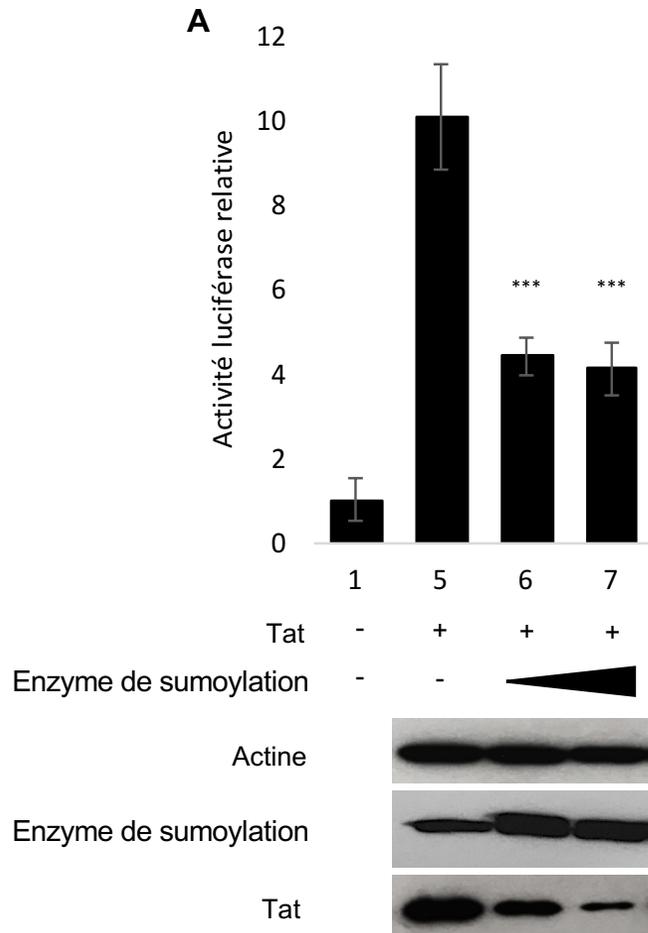
Étude de l'influence de la sumoylation sur l'expression du VIH-1



Étude de l'influence de la sumoylation sur l'expression du VIH-1

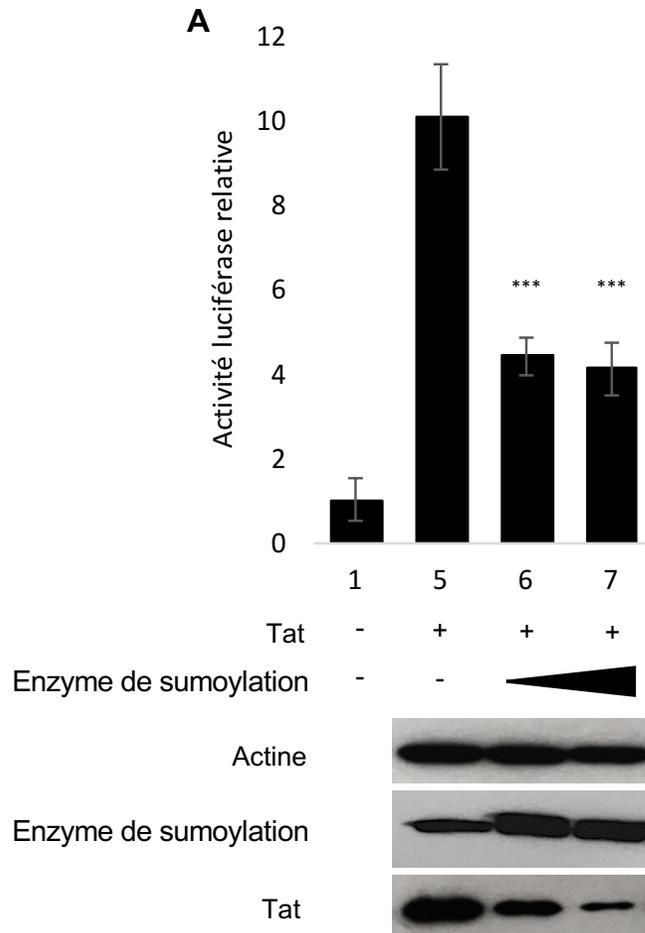


La sumoylation réprime l'expression du VIH-1

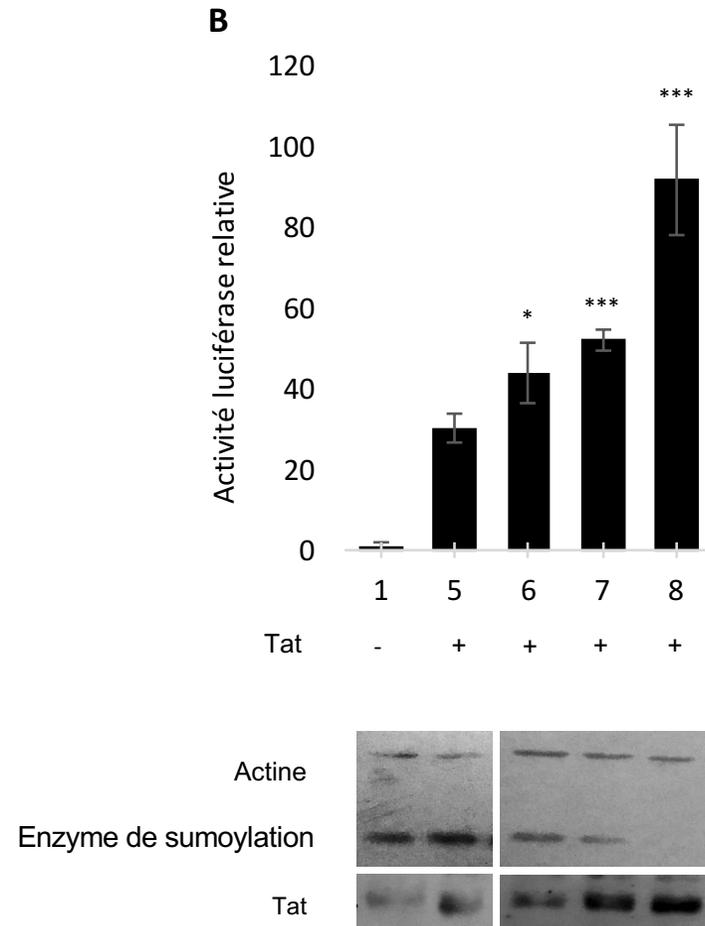


Augmentation sumoylation

La sumoylation réprime l'expression du VIH-1

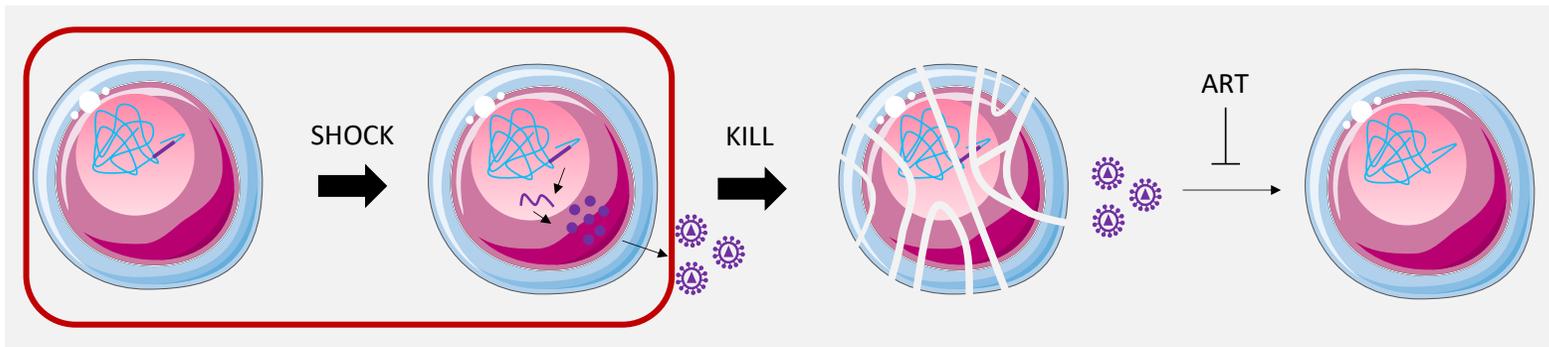


Augmentation sumoylation

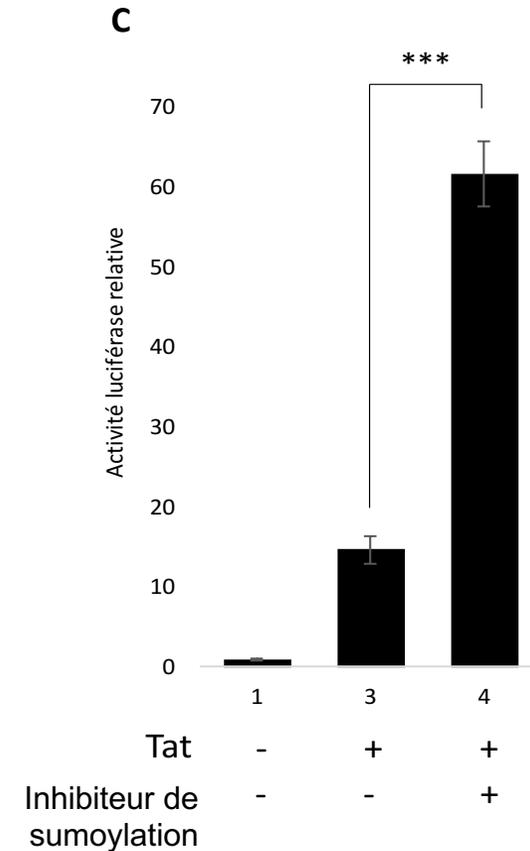


Diminution sumoylation

La sumoylation réprime l'expression du VIH-1

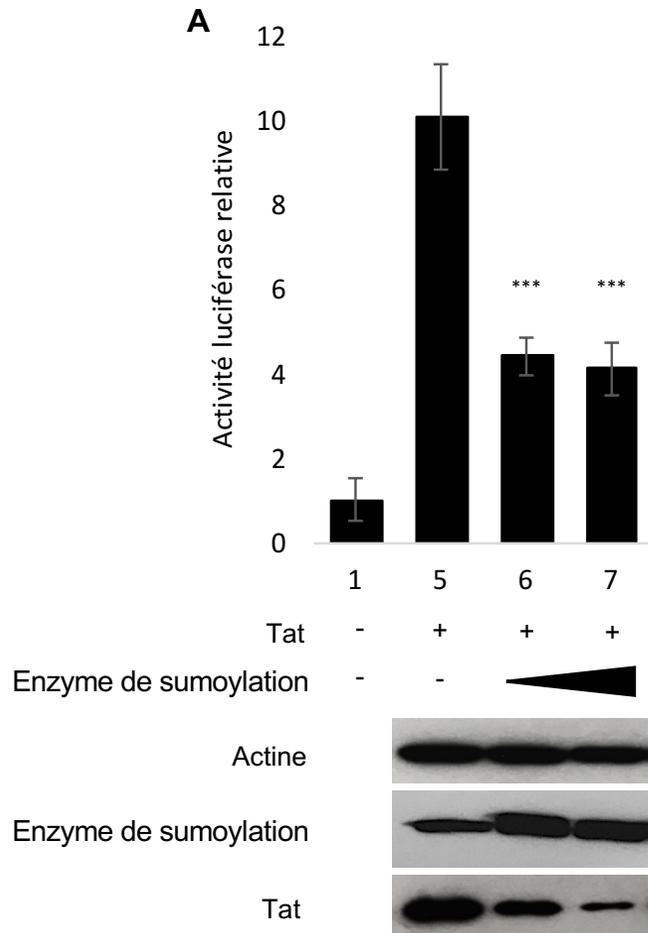


D'après Deeks, S. G. HIV: Shock and kill. **487**, 439 (2012).

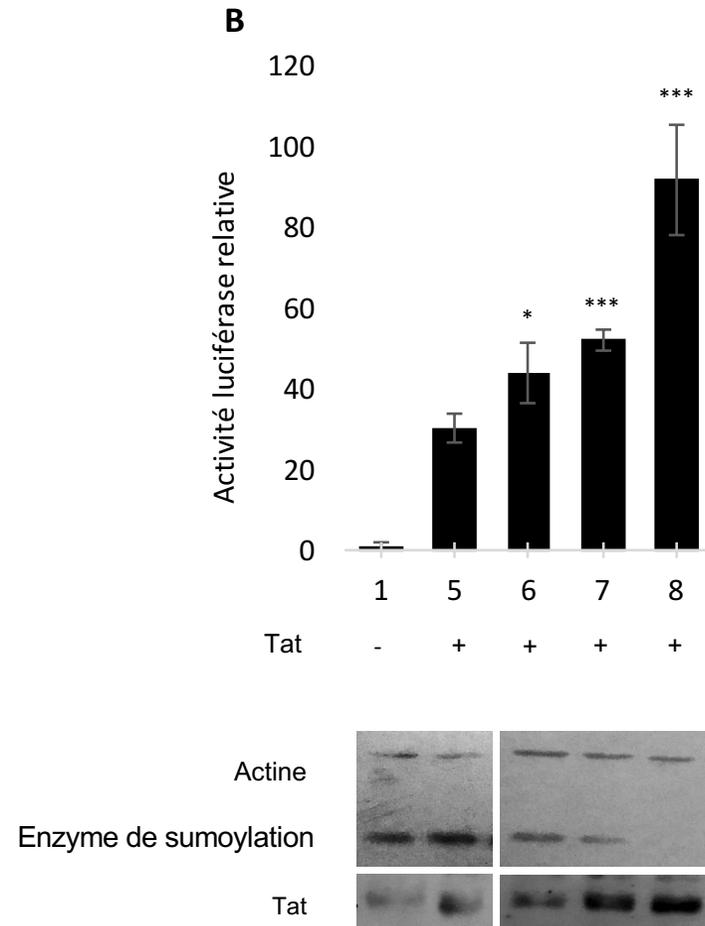


Inhibition Sumoylation

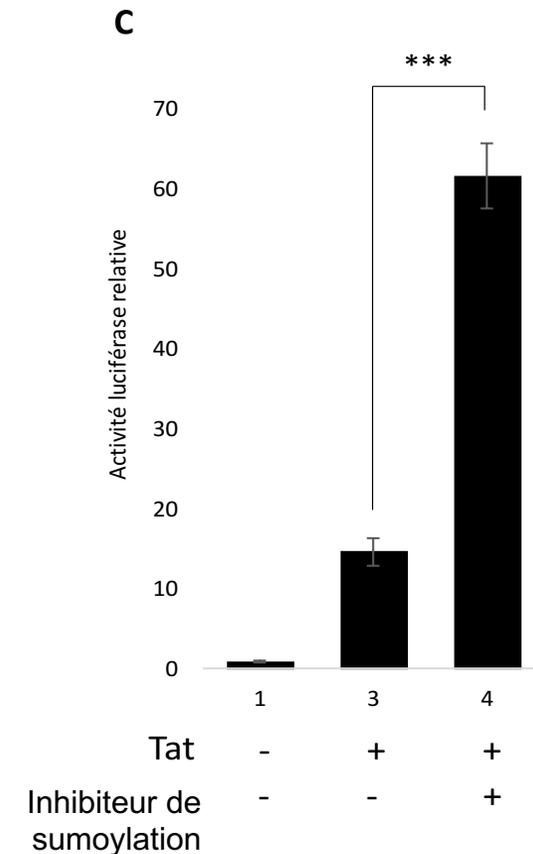
La sumoylation réprime la transcription du VIH-1



Augmentation sumoylation



Diminution sumoylation



Inhibition Sumoylation

Conclusion et perspectives

Conclusion :

- La sumoylation réprime l'expression du VIH-1
- Certains inhibiteurs de la sumoylation permettent de rétablir l'expression du VIH-1

Perspectives :

- Tester d'autres inhibiteurs dans le cadre de la stratégie « Shock and Kill »
- Tester les inhibiteurs sur les modèles de cellules infectées latentes
- Tester les inhibiteurs sur du sang de patients VIH-1 + et traités

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