université
PARIS-SACLAY

L’antithrombine, un nouvel outil pour le dépistage des CDG et de l’alcoolisme chronique ?

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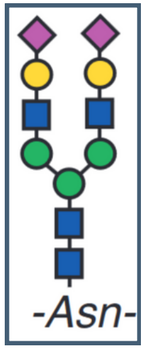
Introduction

CDG type I

Perte de chaînes N-glycanes

alcoolisme (profil type I modéré)

<u>Réticulum Endoplasmique</u>

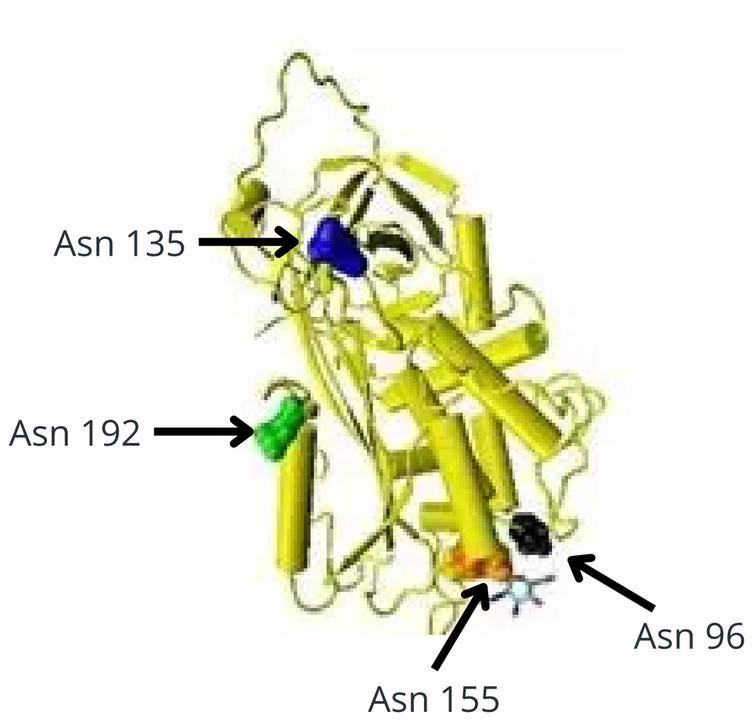


CDG type II

Problème de maturation
(défaut de sialylation terminale des N-glycanes)

<u>Appareil de Golgi</u>

Antithrombine



Monomère

58kDa

432 acides aminés

4 sites de N-glycosylations

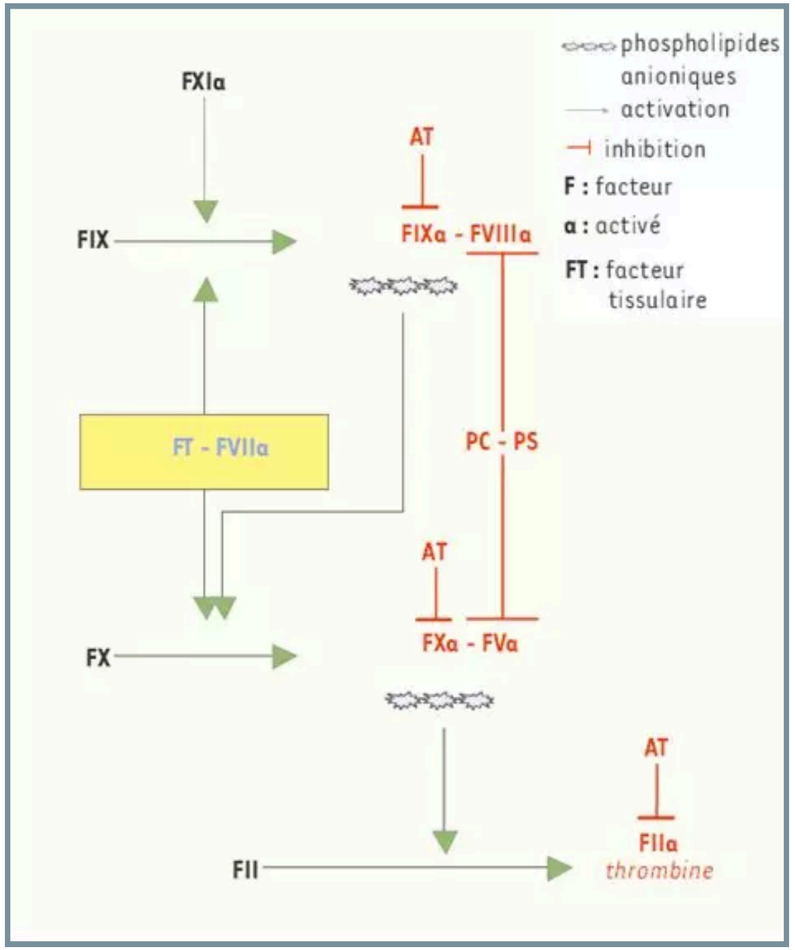
3 formes :
- -forme native
- -forme clivée
- -forme latente

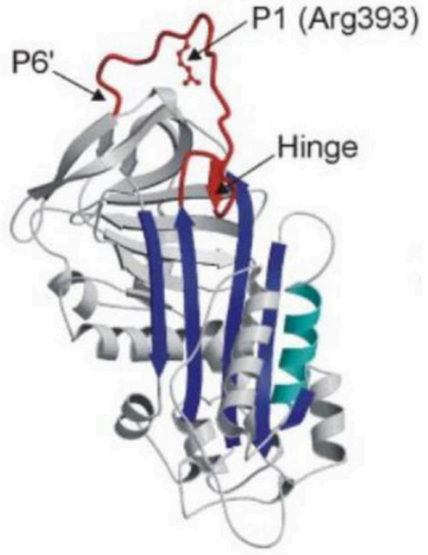
2 glycoformes : **α/β** (90/10)

- -α : 4 sites N-glyc occupés
- -β : 3 sites N-glyc (x Asn135)

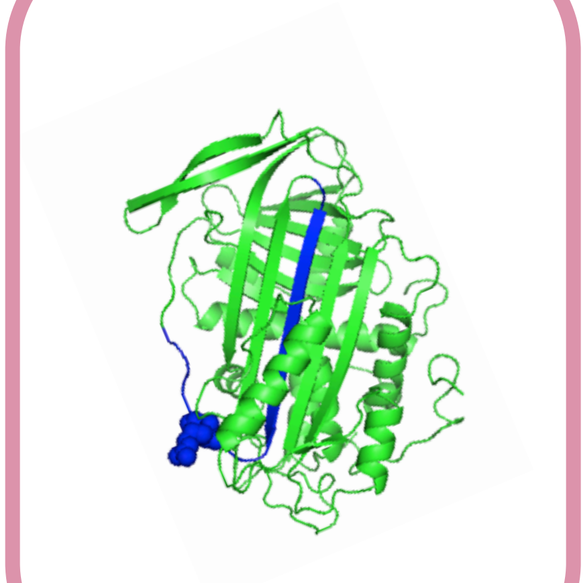
CDG : activité AT très souvent diminuée

Rôle

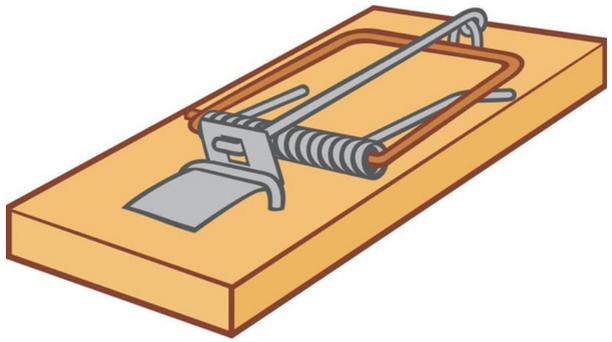




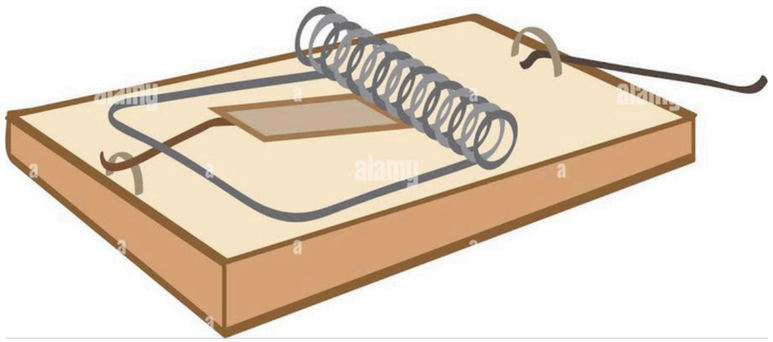
AT native



AT latente



AT native
forme tendue/stressée



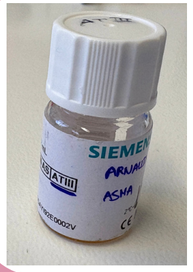
AT latente
forme relâchée

complexe thrombine-AT

Déterminer meilleures dilutions

Tube vert hépariné

Plasma



Ac primaire

1/2500e

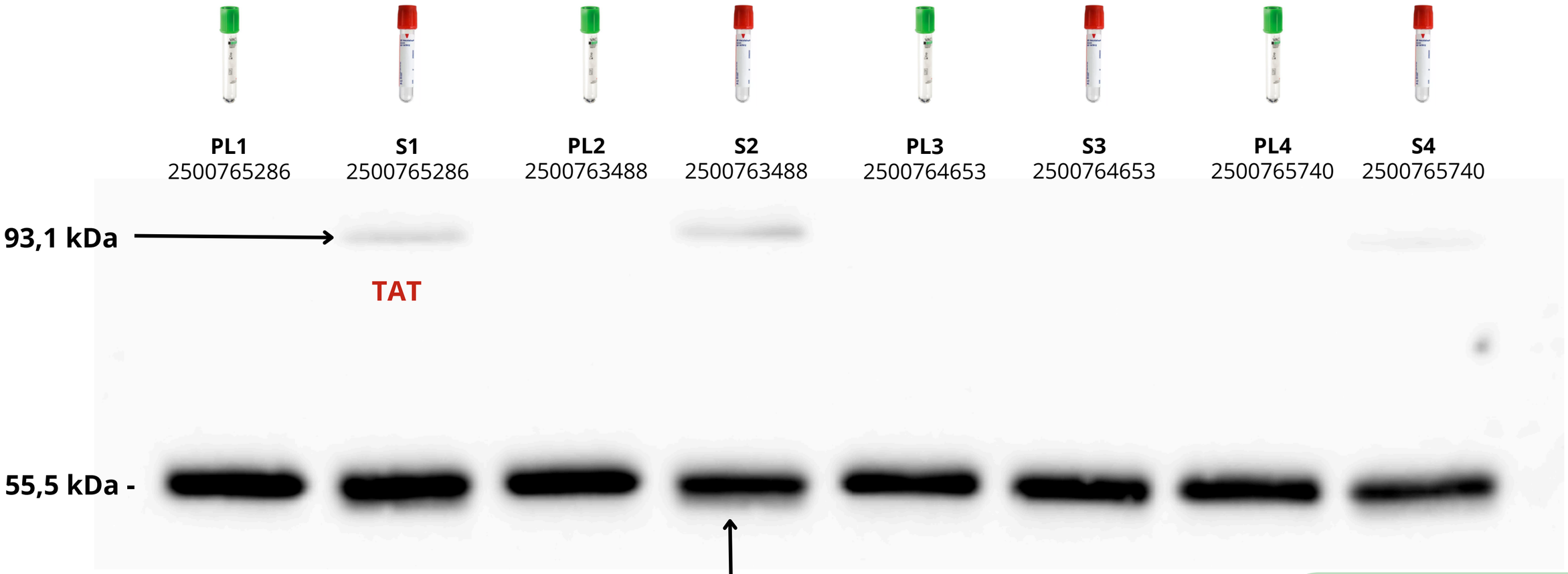
Rabbit Anti-Antithrombin III antibody

Ac secondaire

1/5000e

Donkey Anti-Rabbit IgG antibody coupled with Horseradish Peroxydase

Sérum/plasma témoins



Masse moléculaire Thrombine 37 kDa

Bande plus basse que plasma
Présence *smear* (ombre)

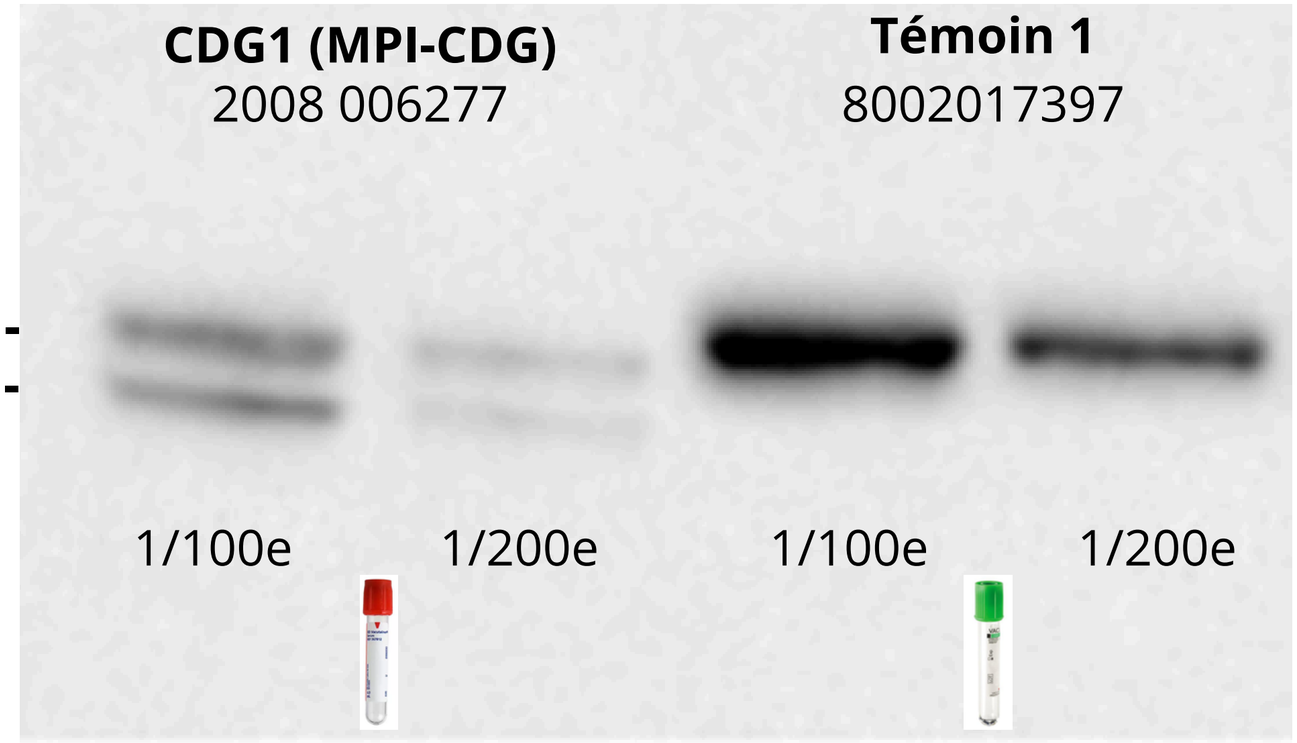
Sérum **Plasma**

CDG type I

Perte chaine N-glycane

différence 3,1 kDa
≈ 1 chaine N-glyc
en moins

54,8 kDa -
51,7 kDa -



- 55,2kDa

Masse moléculaire chaine N-glycane : 2,206 kDa

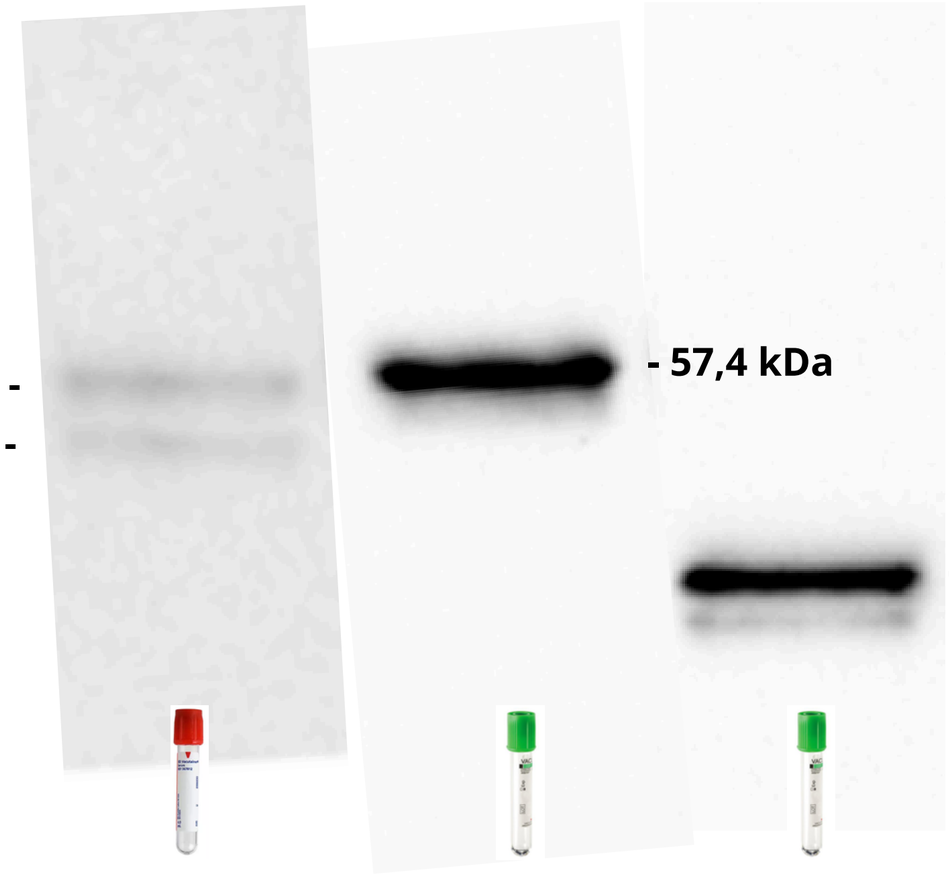
Peptide N-glycanase

PNGase : coupe toutes les chaînes N-glycanes

CDG1 (MPI-CDG)
2008 006277

Témoin 1
2500490195

Témoin 1 + PNGase
2500490195



54,8 kDa -

51,7 kDa -

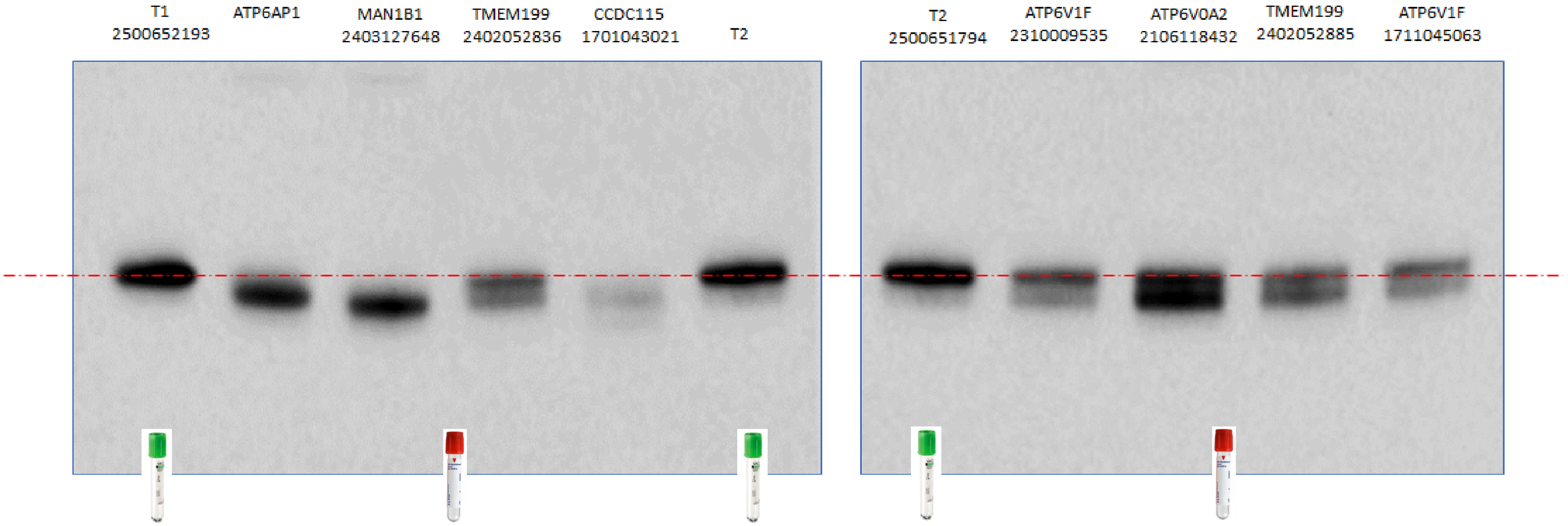
- 57,4 kDa

- 45,3 kDa

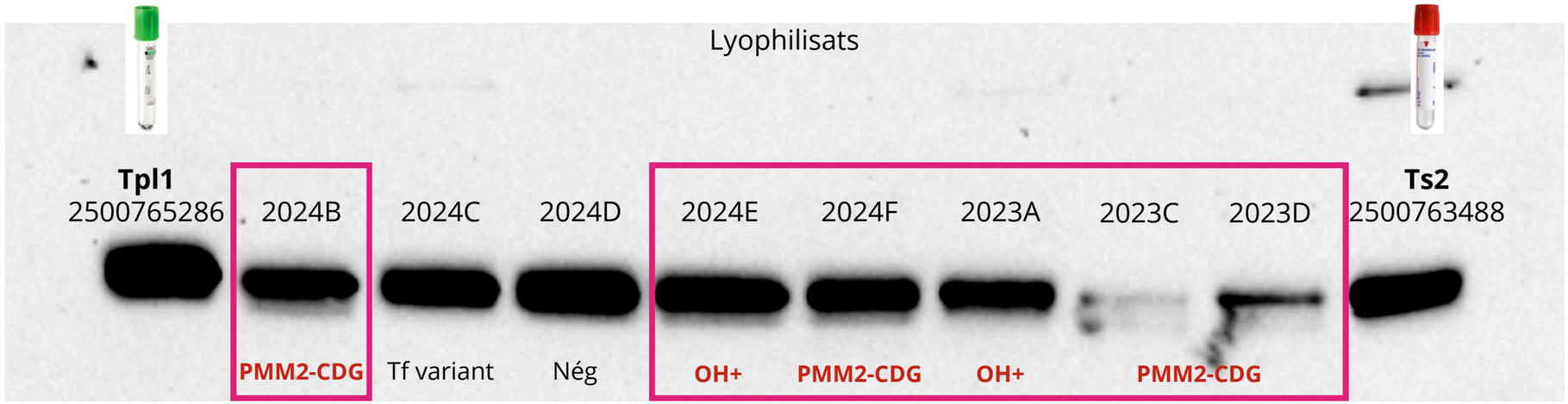
- 43,9 kDa ⟶ **AT3 sous forme clivée ?**

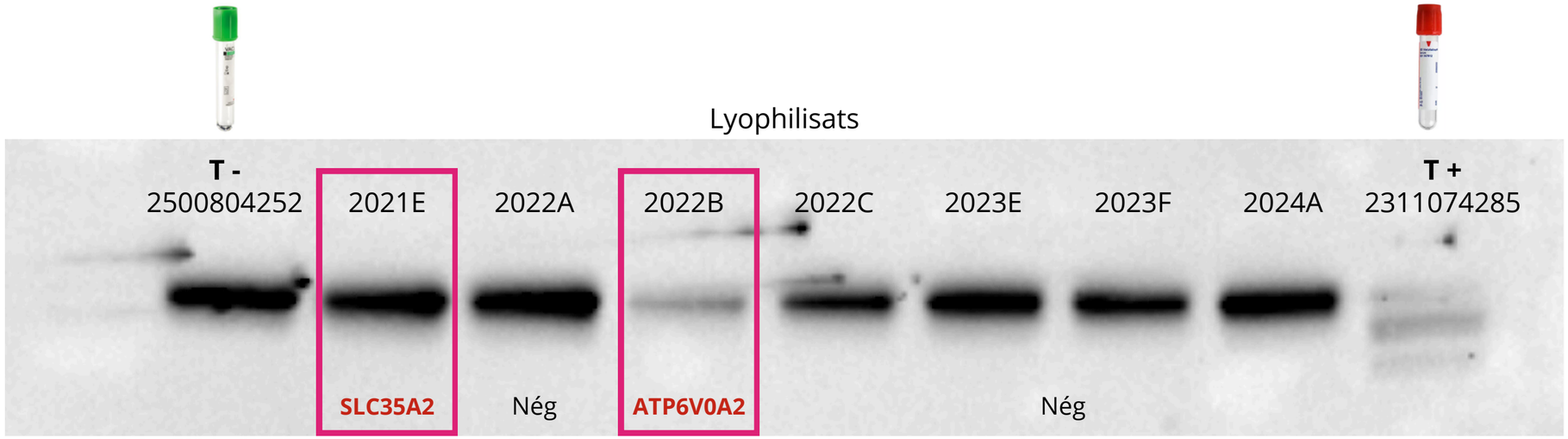
CDG type II

chaines présentes mais immatures (absence acides sialiques terminaux)

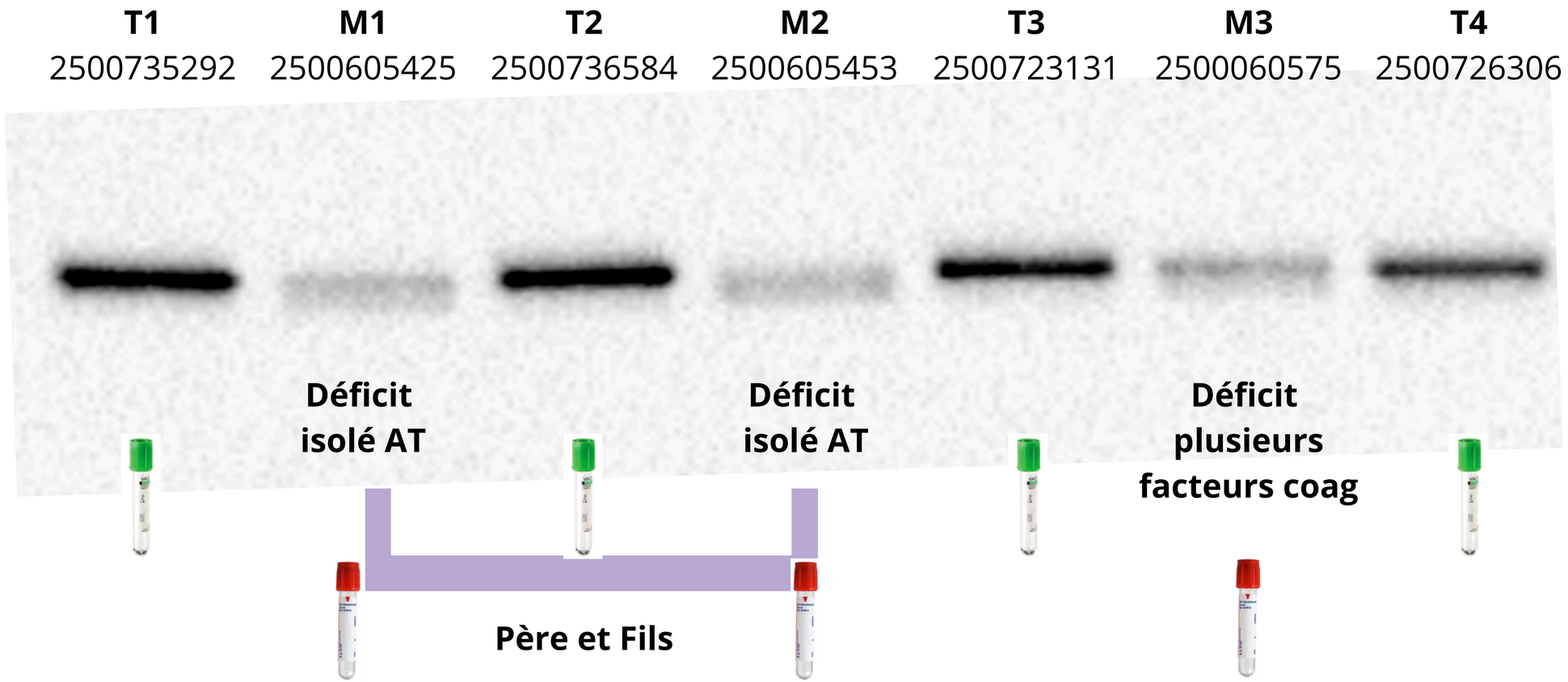


résultats EEQ

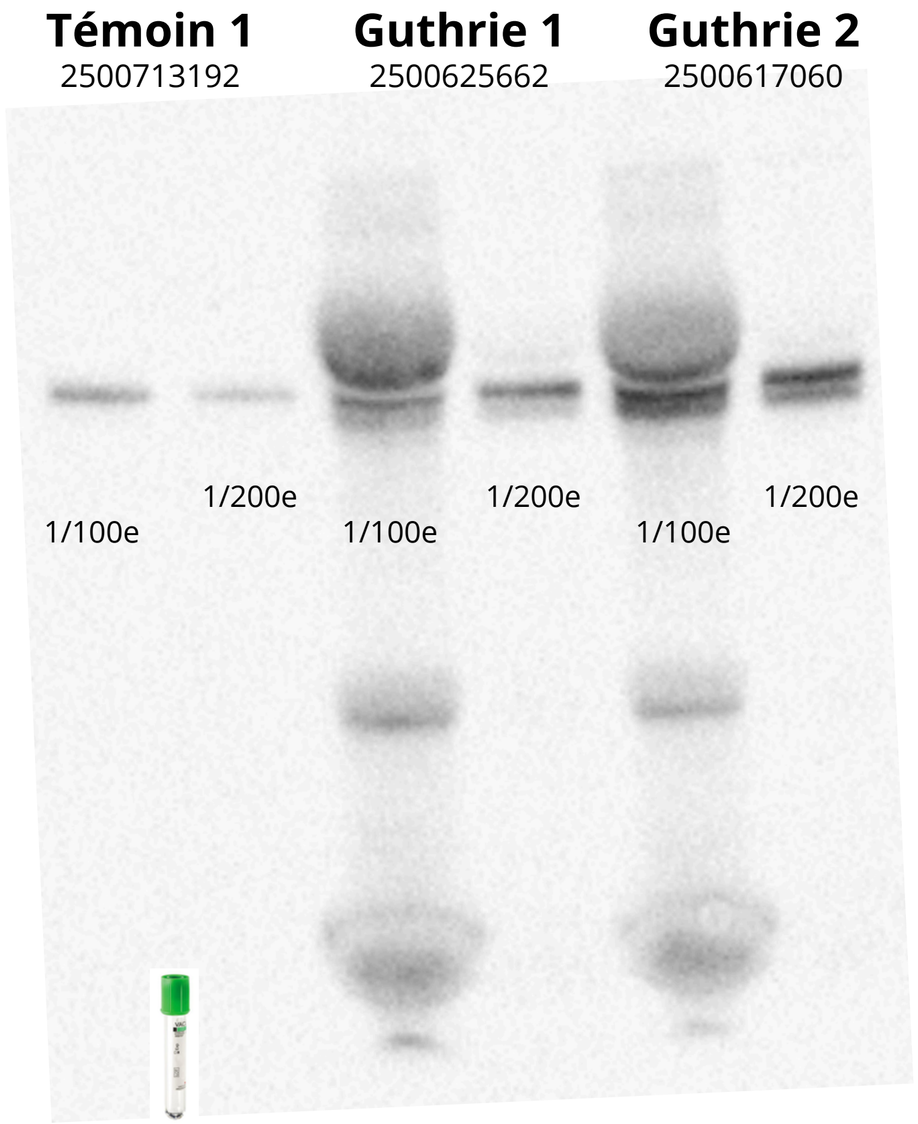




Patients avec déficit en AT



Papier GUTHRIE



Guthrie: sang total hémolysé

résultats encourageants ...