

# Les thrombus intracrâniens issus de thrombectomie possèdent une coque de sensibilité diminuée au t-PA



Fondation Ophtalmologique  
Adolphe de Rothschild

LNTS

Laboratory for Vascular Translational Science



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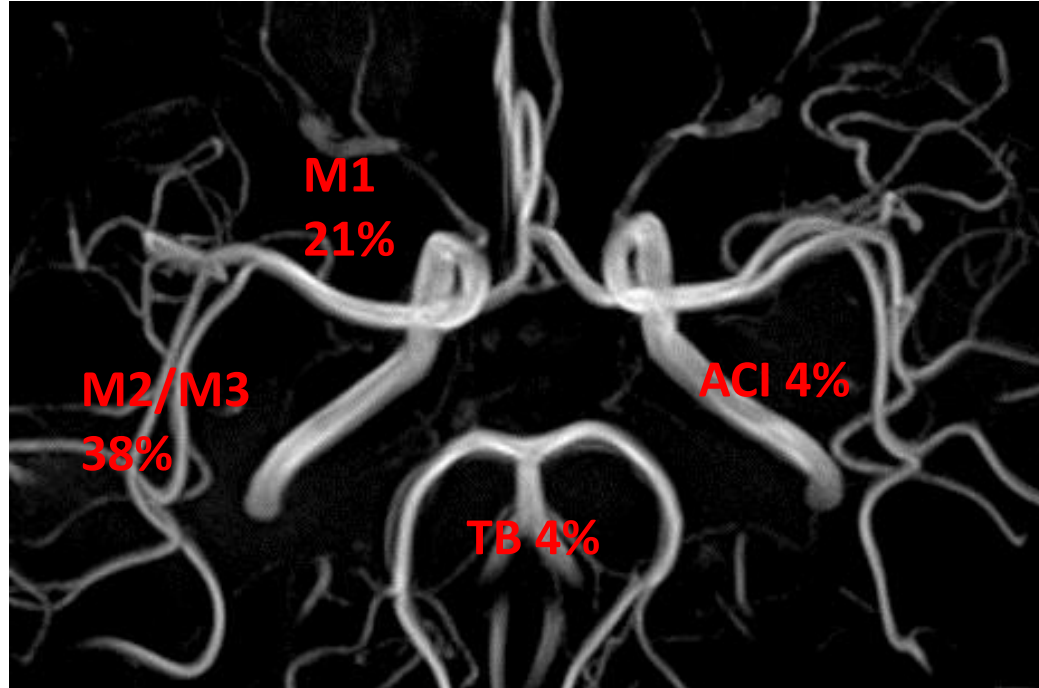


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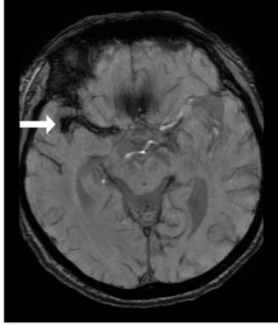
## Occlusions proximales : Recanalisation précoce après thrombolyse intraveineuse par t-PA



# Méthode

Biobanque de thrombus intracrâniens incluant

- Caractéristiques cliniques
- Données radiologiques
- Suivi à 3 mois

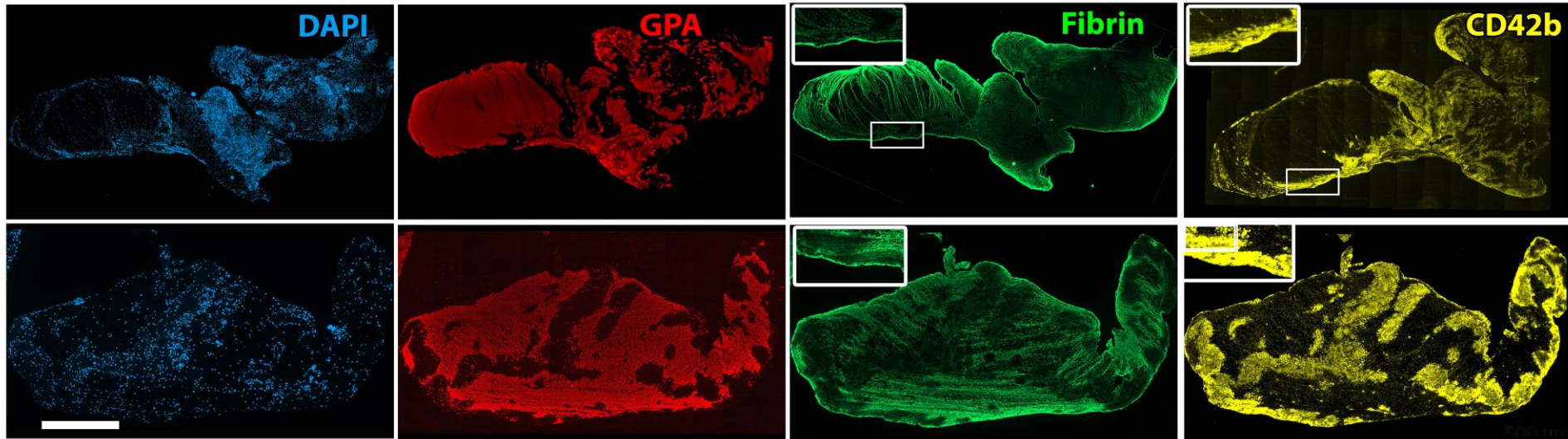


Stroke



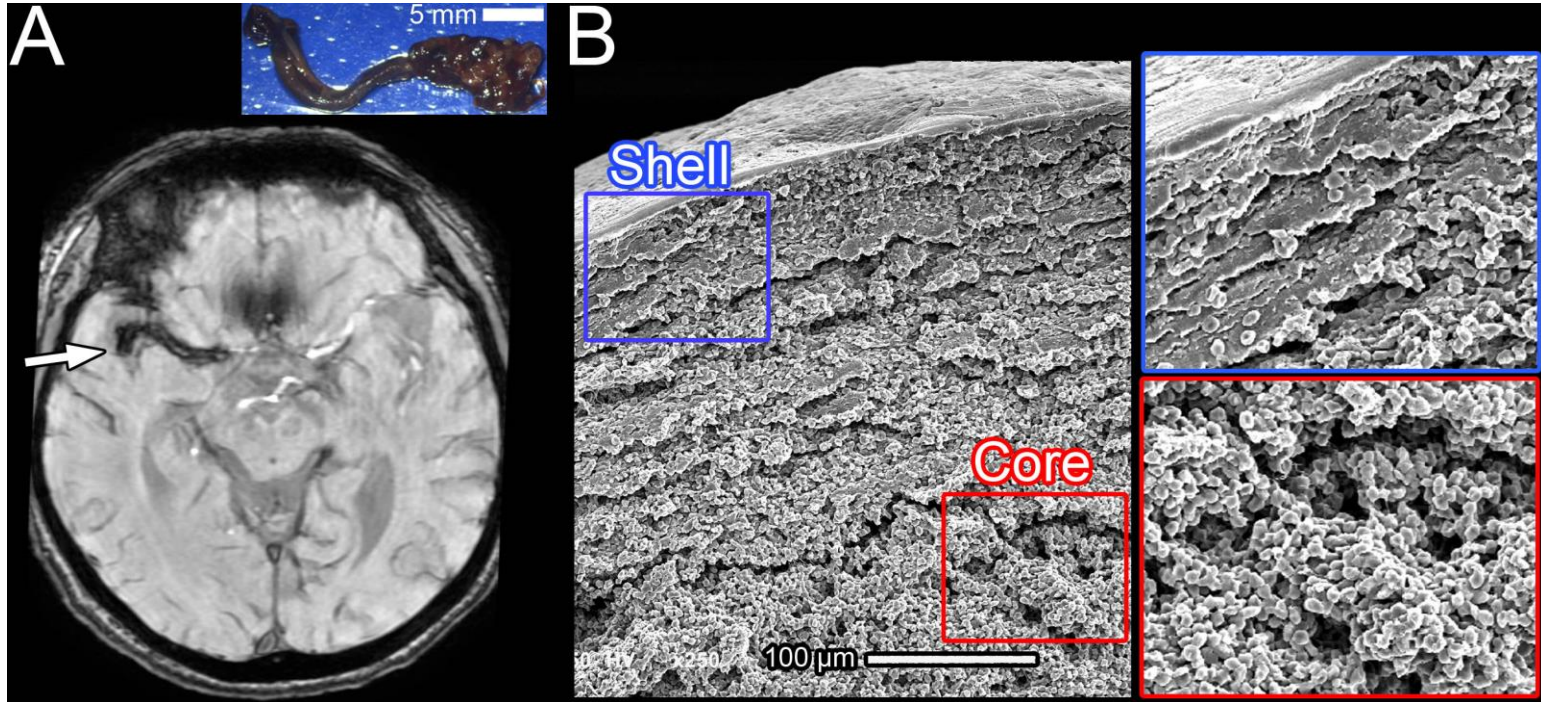
**N = 400**

# Aspect en immunohistologie





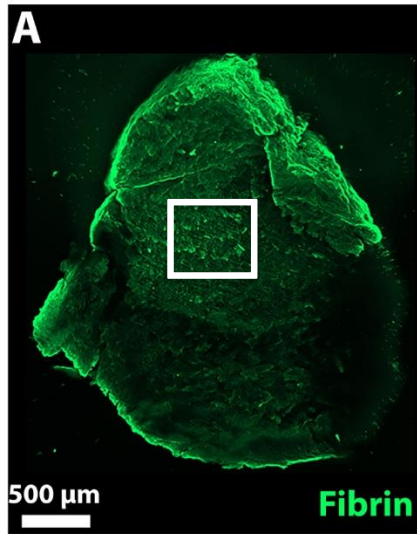
# Structure du cœur versus surface



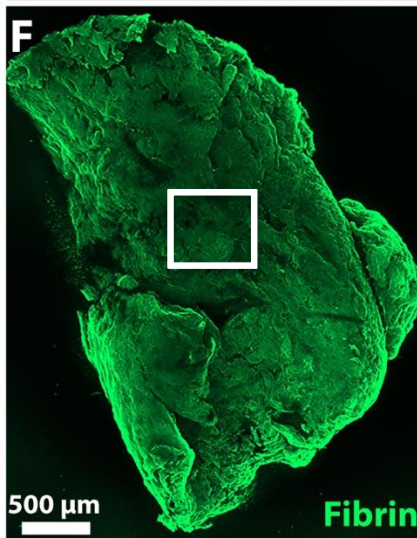
# Aspect de la coque par rapport au cœur

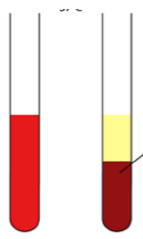
Immunomarquages en pièces entières

Coeur



Surface

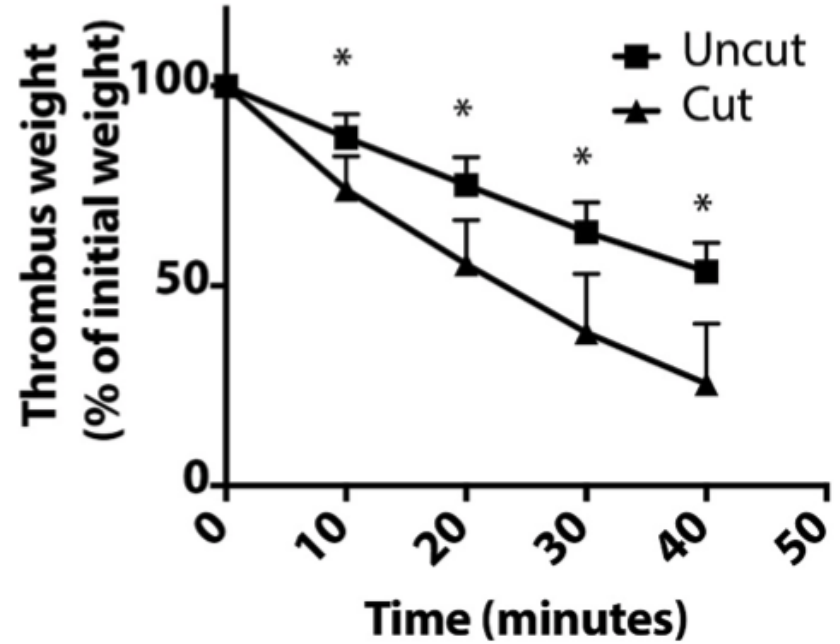
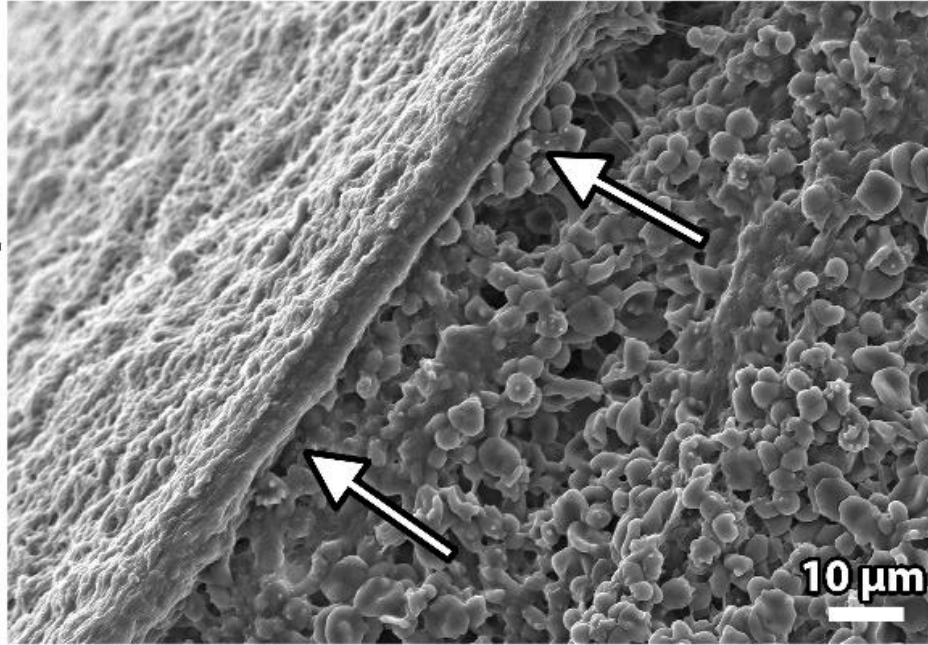




# In vitro, la brèche de la coque riche en plaquettes accélère la lyse par le t-PA



Platelet rich plasma



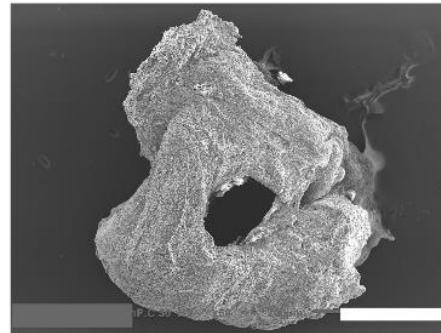
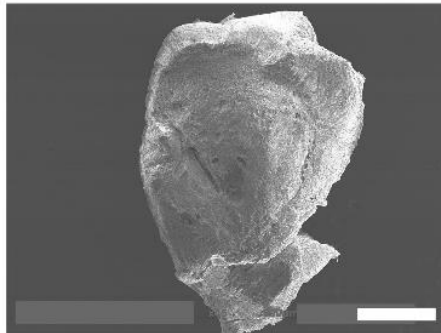
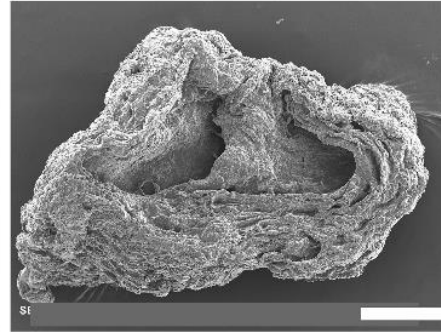
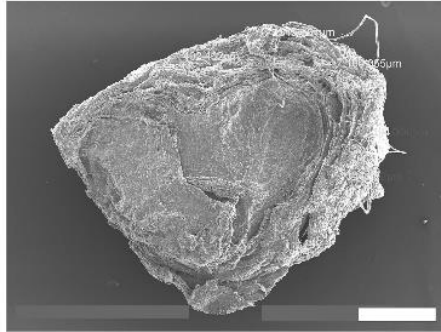


# Ex vivo la coque à une sensibilité au t-PA diminuée par rapport au coeur



PBS

t-PA + Pg



n= 5

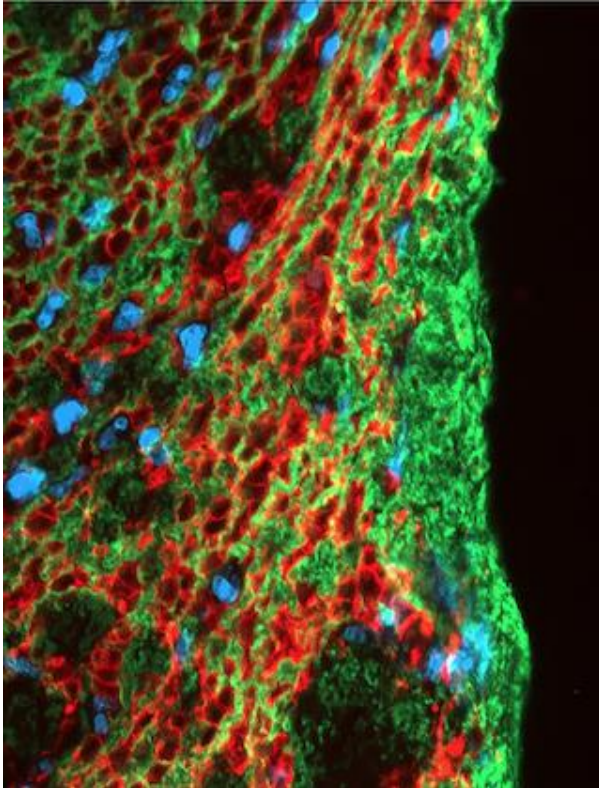


# Conclusion



- Les thrombus intracrâniens issus de thrombectomie partagent une caractéristique structurelle commune : un cœur riche en globules rouges entouré d'une coque compacte de fibrine et de plaquettes
- Cette caractéristique apparaît indépendante de la cause de l'occlusion intracrânienne.
- Cette coque est moins sensible au t-PA que le cœur

# Perspectives : Nouveaux agents thrombolytiques

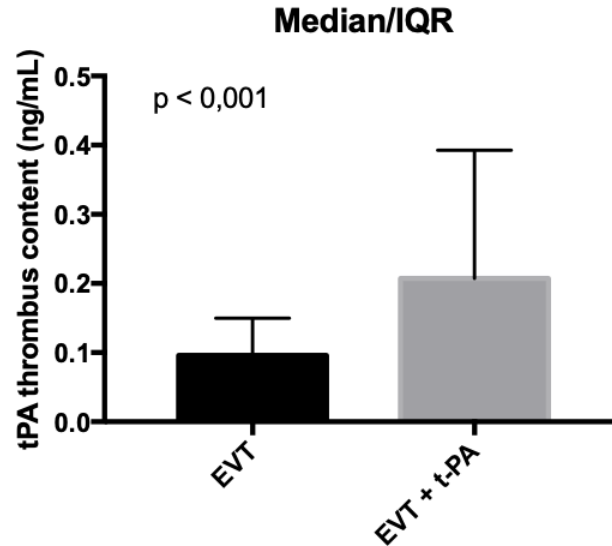


- Fibrine <----- Tenecteplase

ORIGINAL ARTICLE

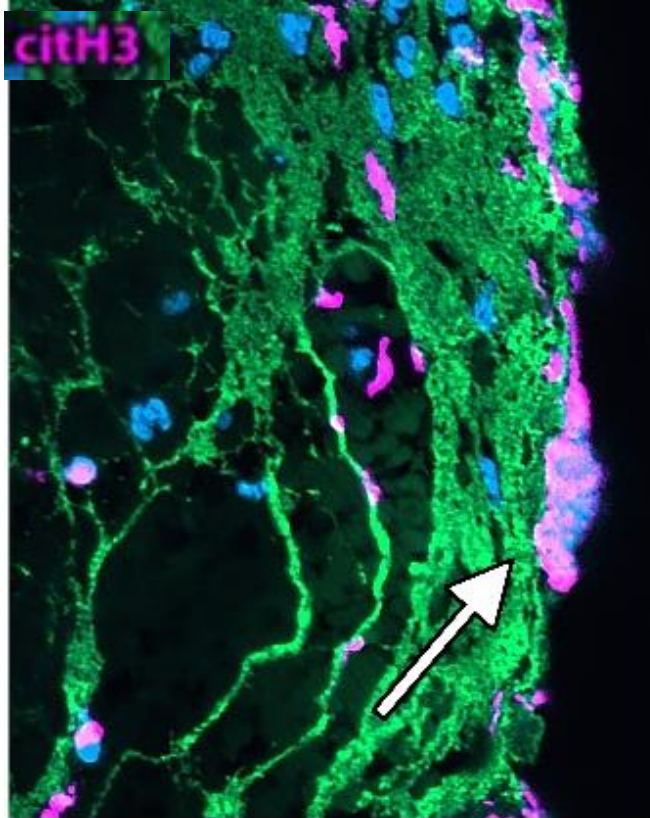
Tenecteplase versus Alteplase before Thrombectomy for Ischemic Stroke

# Perspectives : accessibilité de la molécule au site d'occlusion



Contenu en tPA des  
thrombus intracrâniens

# Perspectives : Nouvelles cibles thrombolytiques

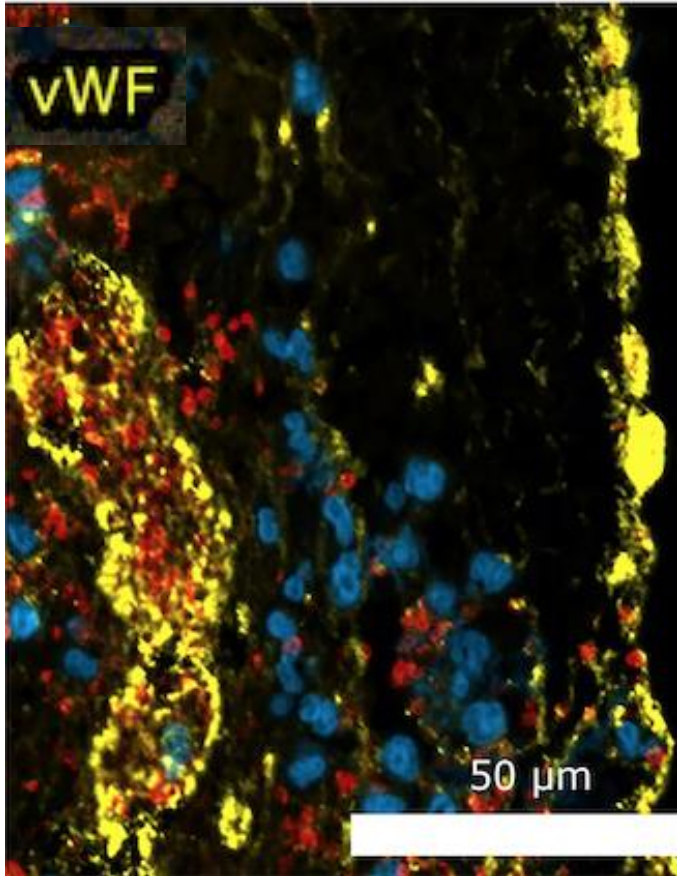


- NETs <----- DNAse

*Ducroux, et al. Stroke 2017*

*Laridan et al. Annals of Neurology 2017*

# Perspectives : Nouvelles cibles thrombolytiques



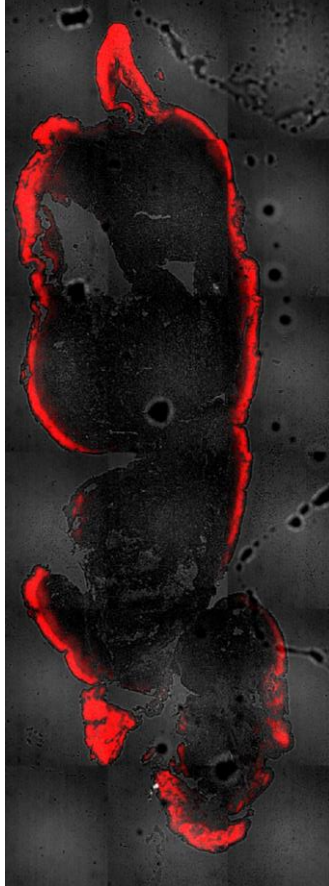
- vWF <----- N-Acetylcysteine  
ADAMTS13

*Denorme, et al. Blood 2016*

*Martinez de Lizarrondo et al. Circulation 2017*



# Perspectives : Nouvelles cibles thrombolytiques



- Plaquettes ←----- anti-GPVI

# Merci pour votre attention



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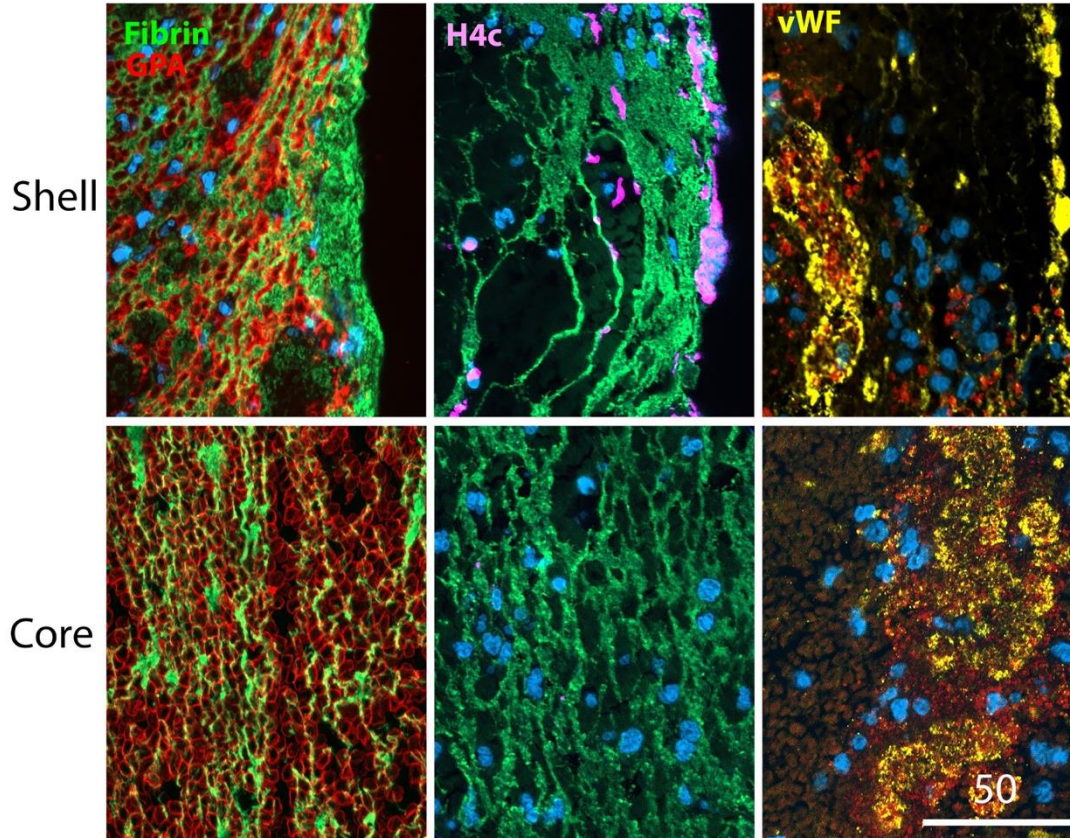


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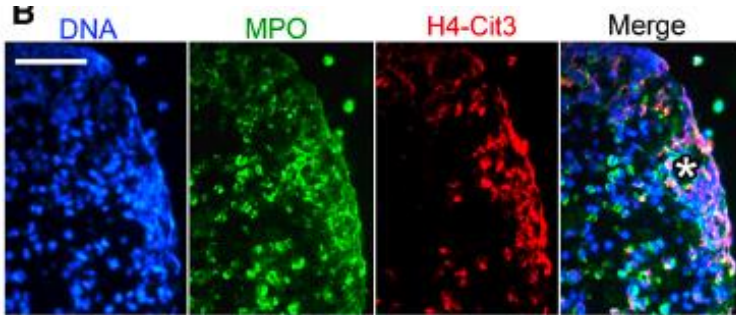
# Shell versus core content



# New therapeutic targets

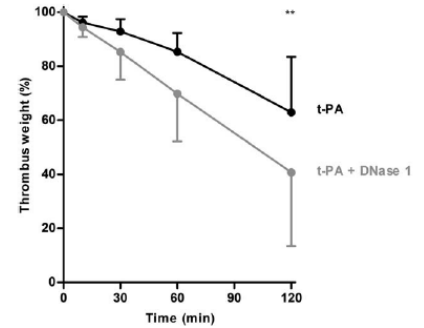
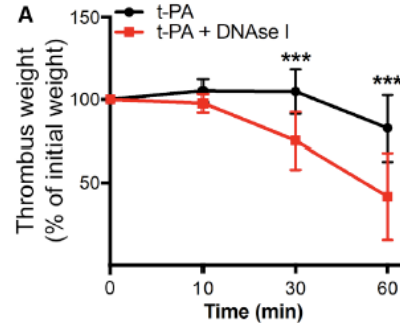


## NETs



Ducroux, Di Meglio, et al. Stroke 2017

## DNase



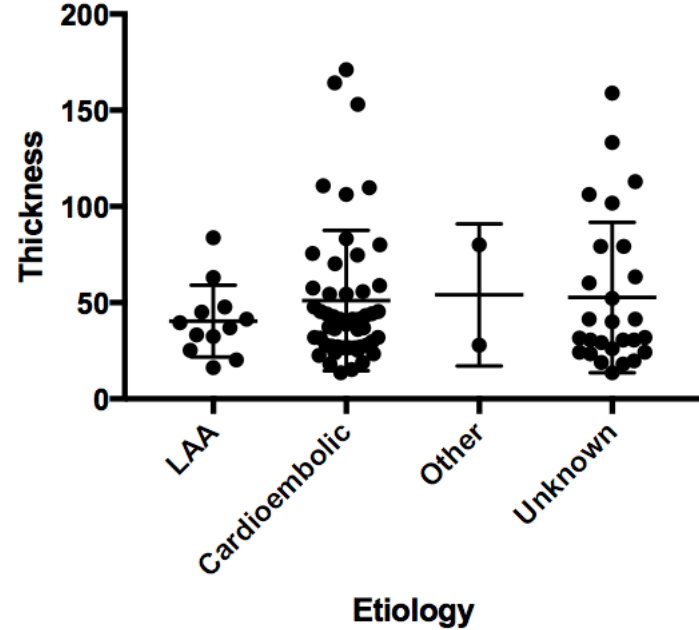
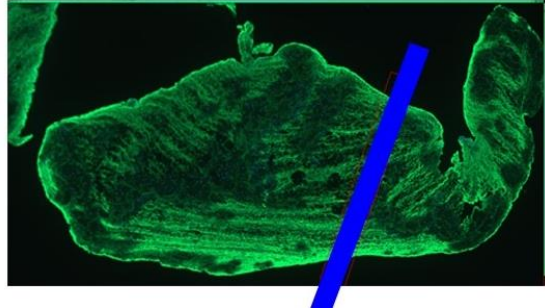
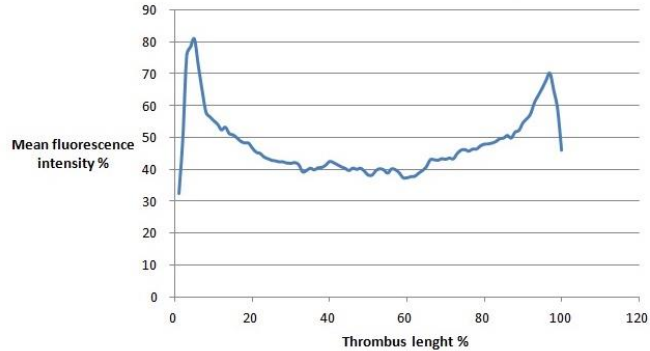
Laridan et al. Annals of Neurology 2017



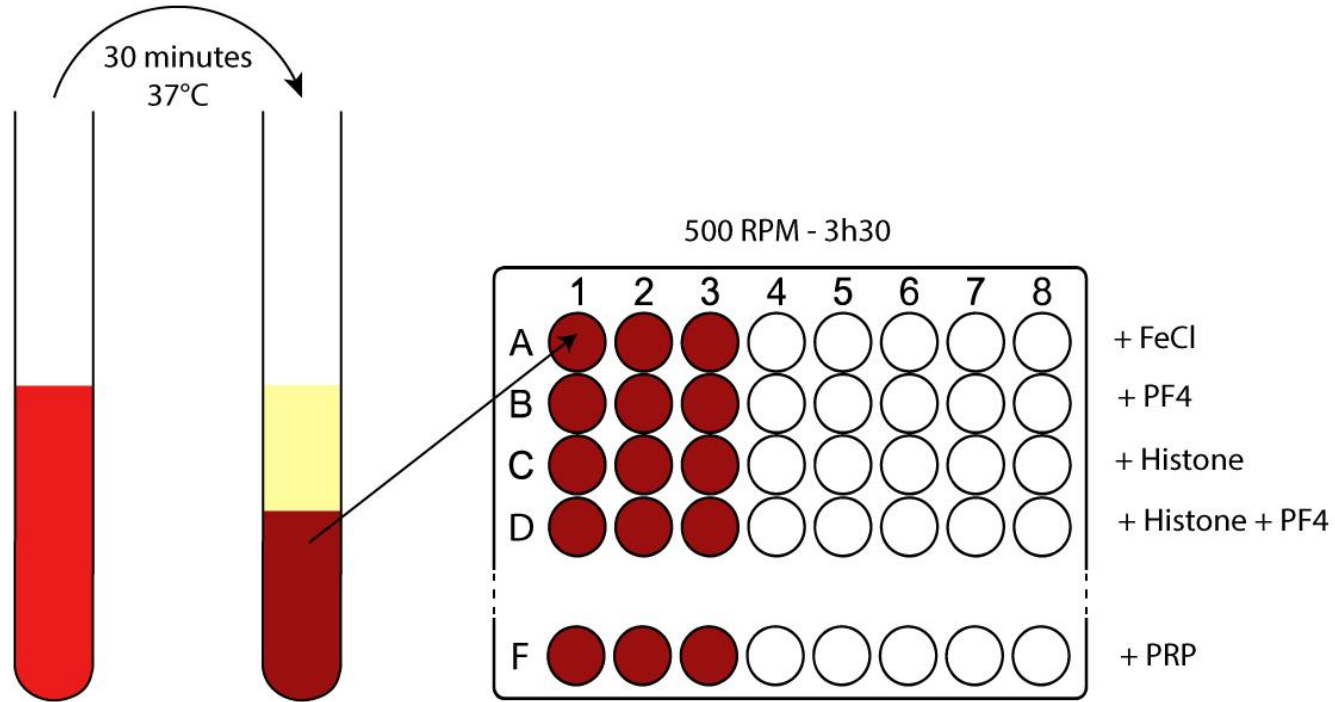
# Thickness variability and stroke etiology



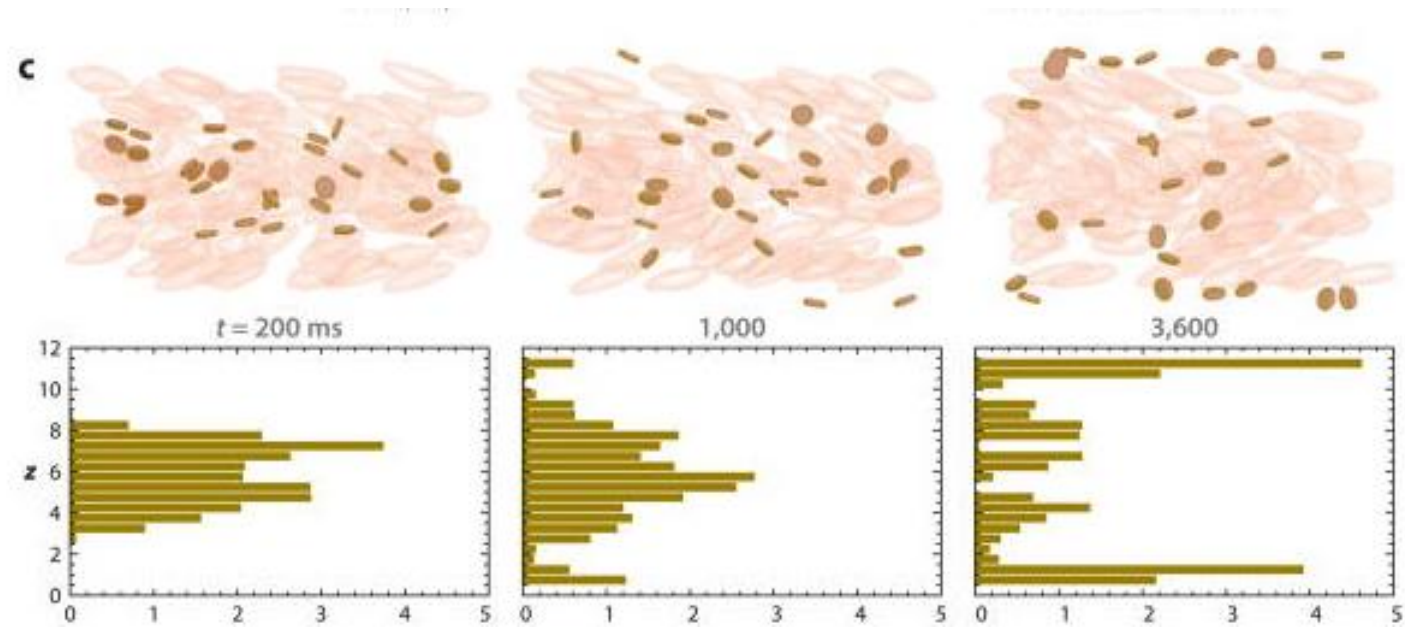
Average fibrin fluorescence intensity (6 thrombus)



# Shell formation in vitro



# Repartition of circulating cells regarding flow conditions



*Fogelson et Neeves Annu Rev Fluid Mech 2018*