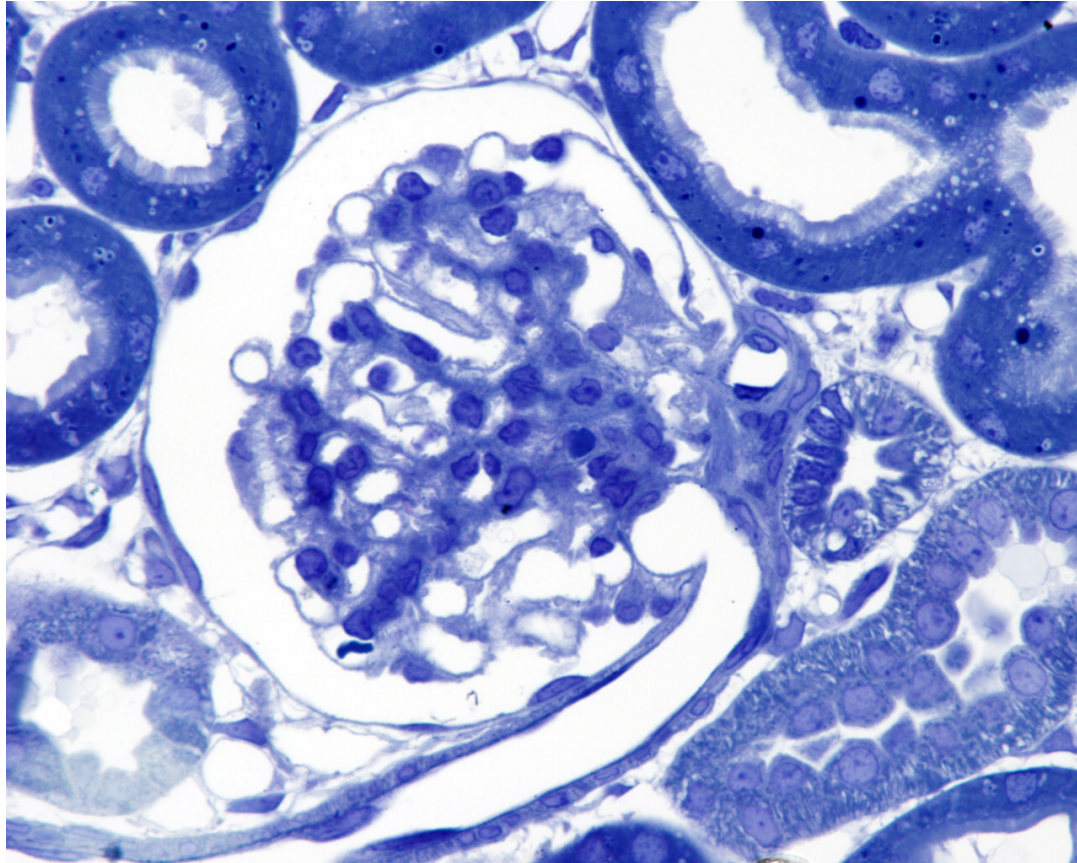


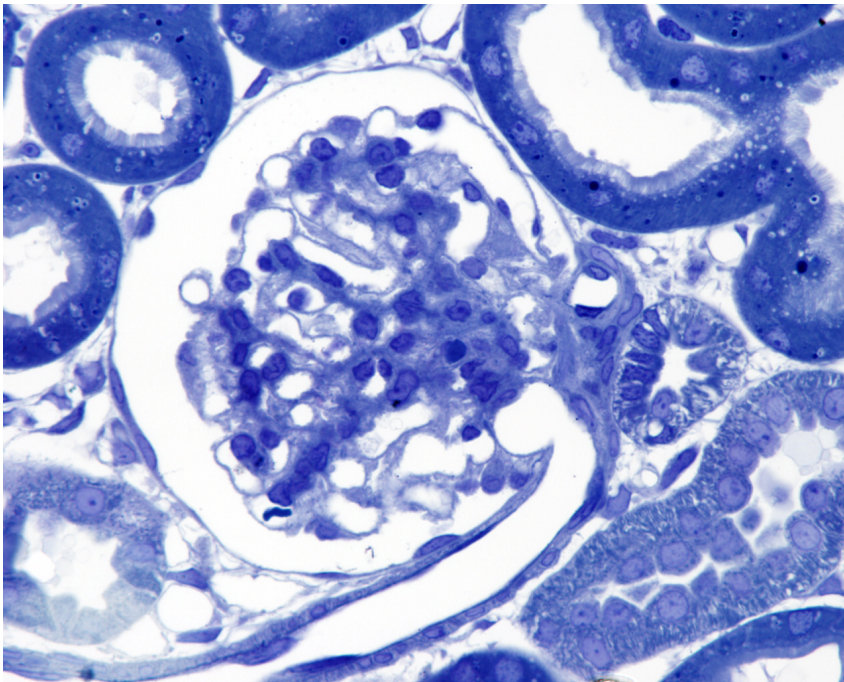
Histologie du système urinaire



Priscilla.Soulie@unige.ch

PINGO : 845473

Histologie du système urinaire



Le système urinaire comprend :

- **Les reins** (capsule, cortex, medulla, calices, bassinet)
- **Les voies urinaires** (uretères, vessie, urètre)

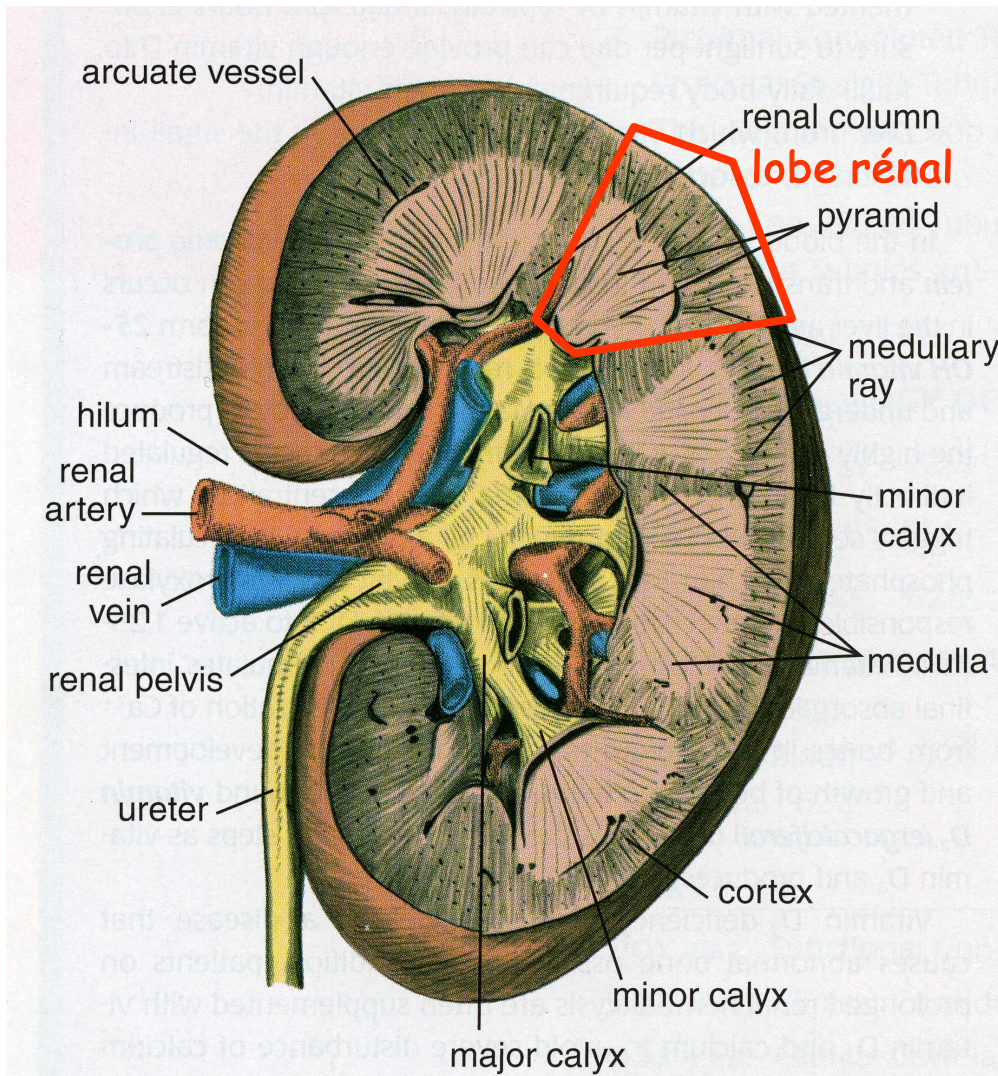
Les reins sont des organes vitaux multifonctionnels :

- **Filtration**
(1'800 L sang , 180 L filtrat , 1-1.5 L urine par jour)
- **Élimination, réabsorption et/ou sécrétion**
(Na^+ , H_2O , Ca^{++} , H^+ , ...)
- **Sécrétion endocrine**
(rénine, érythropoïétine, $1,25(\text{OH})_2\text{D}_3$)

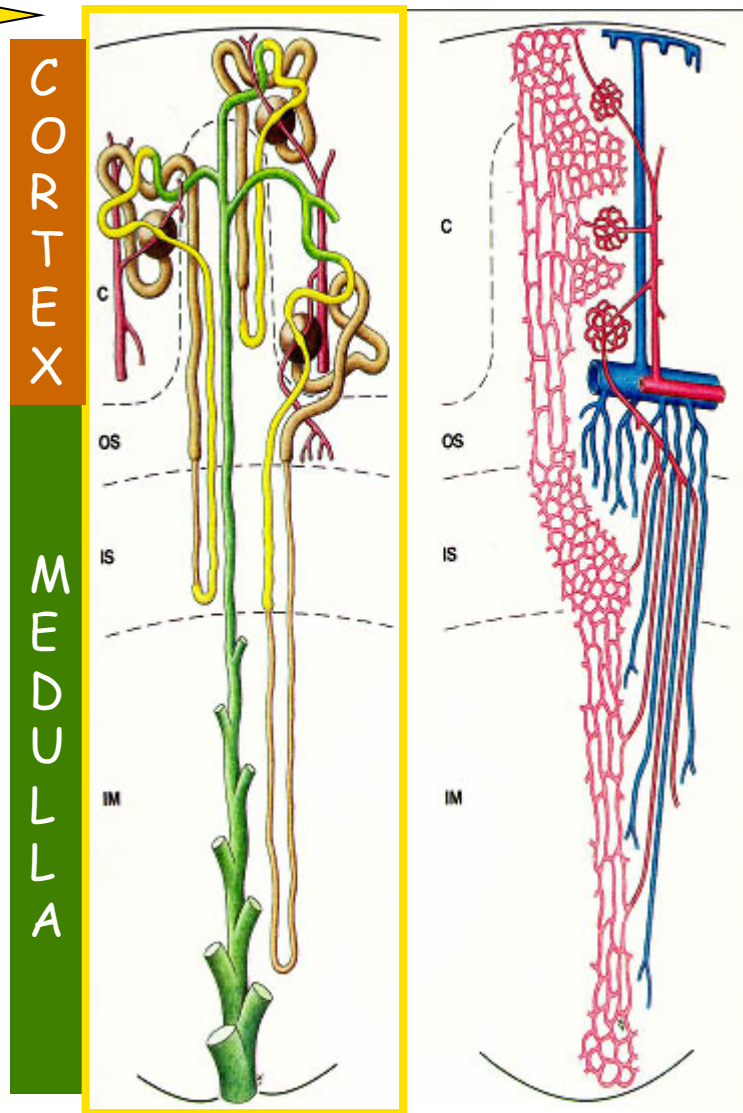
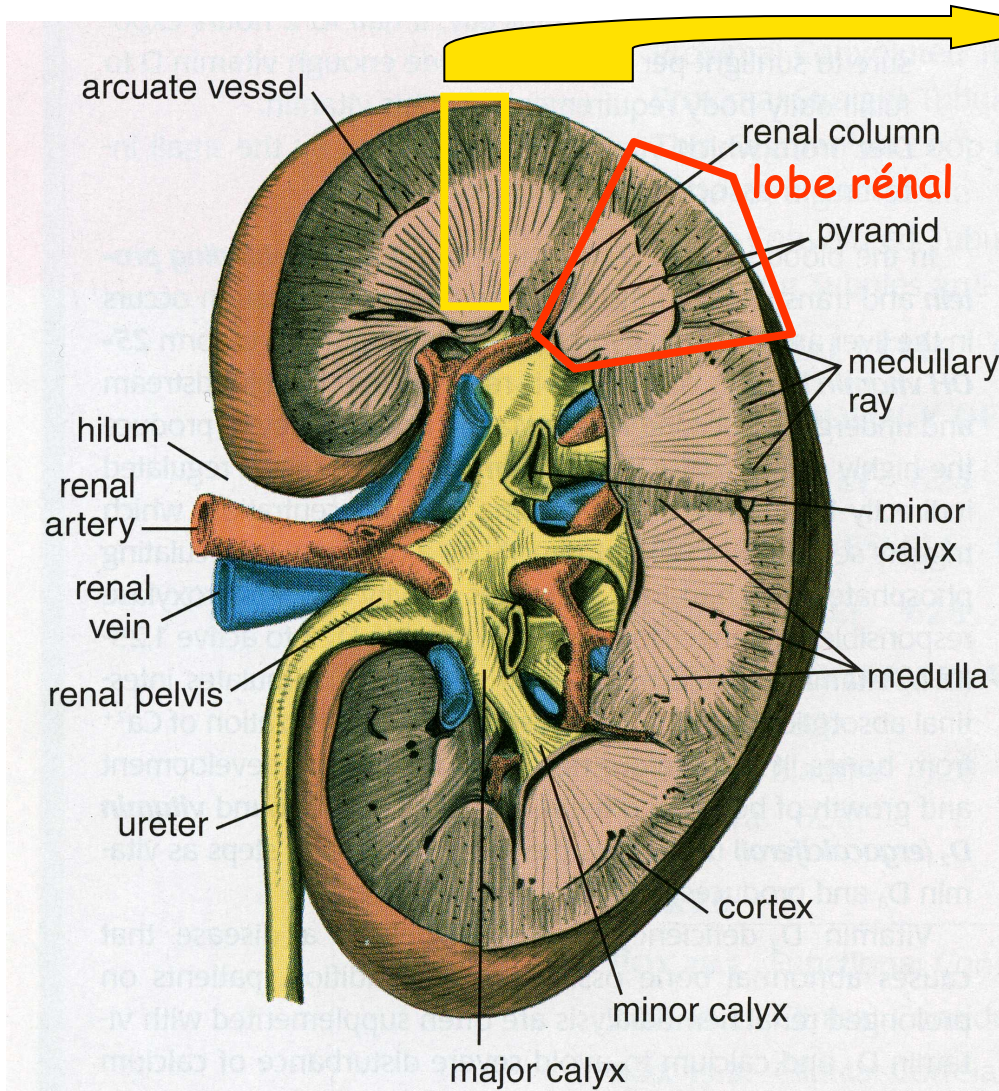
PLAN

- Les néphrons :
 - Les corpuscules de Malpighi
 - Les tubes rénaux
- Les voies urinaires et l'épithélium de transition

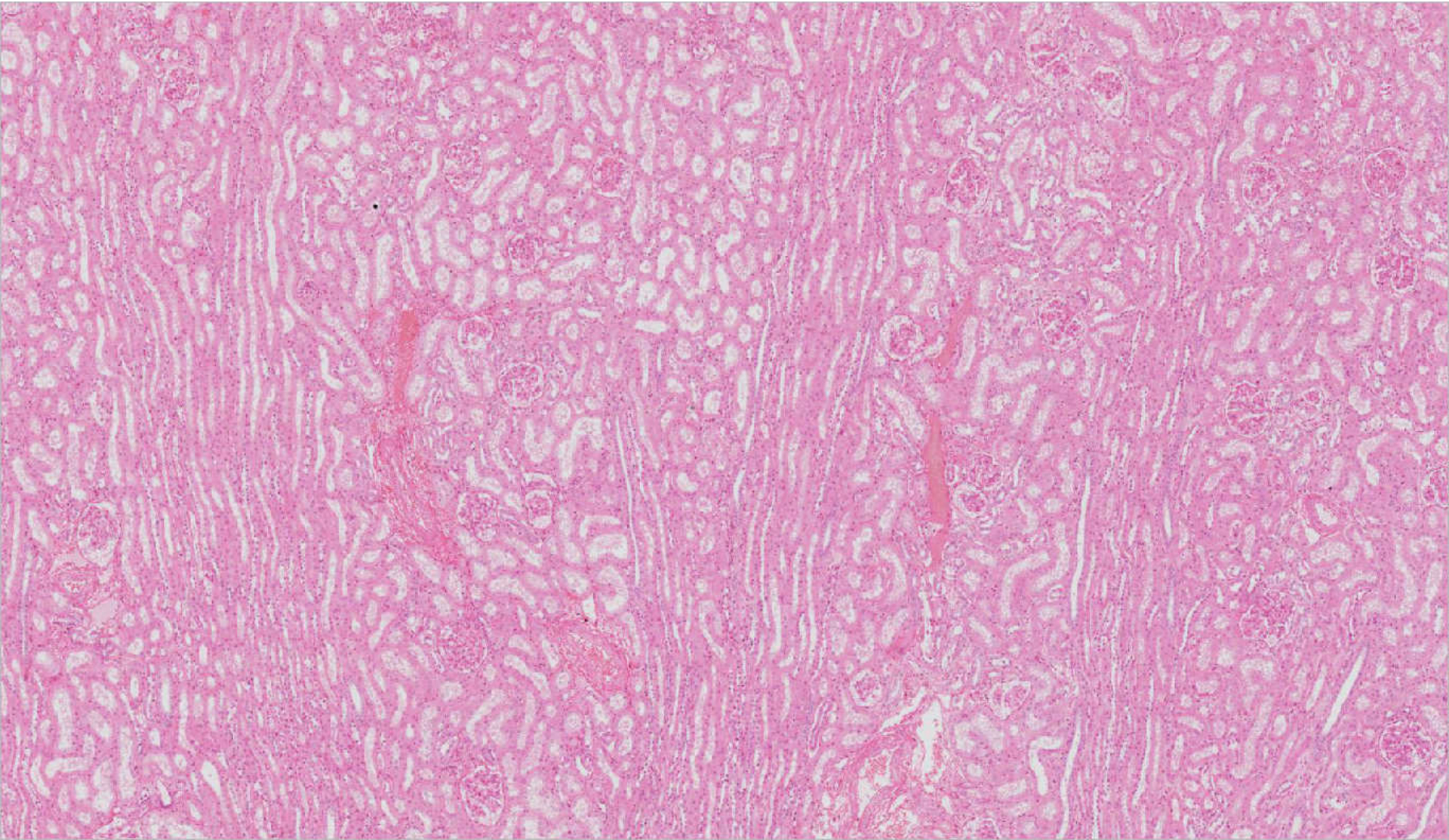
Les reins : rappel anatomique



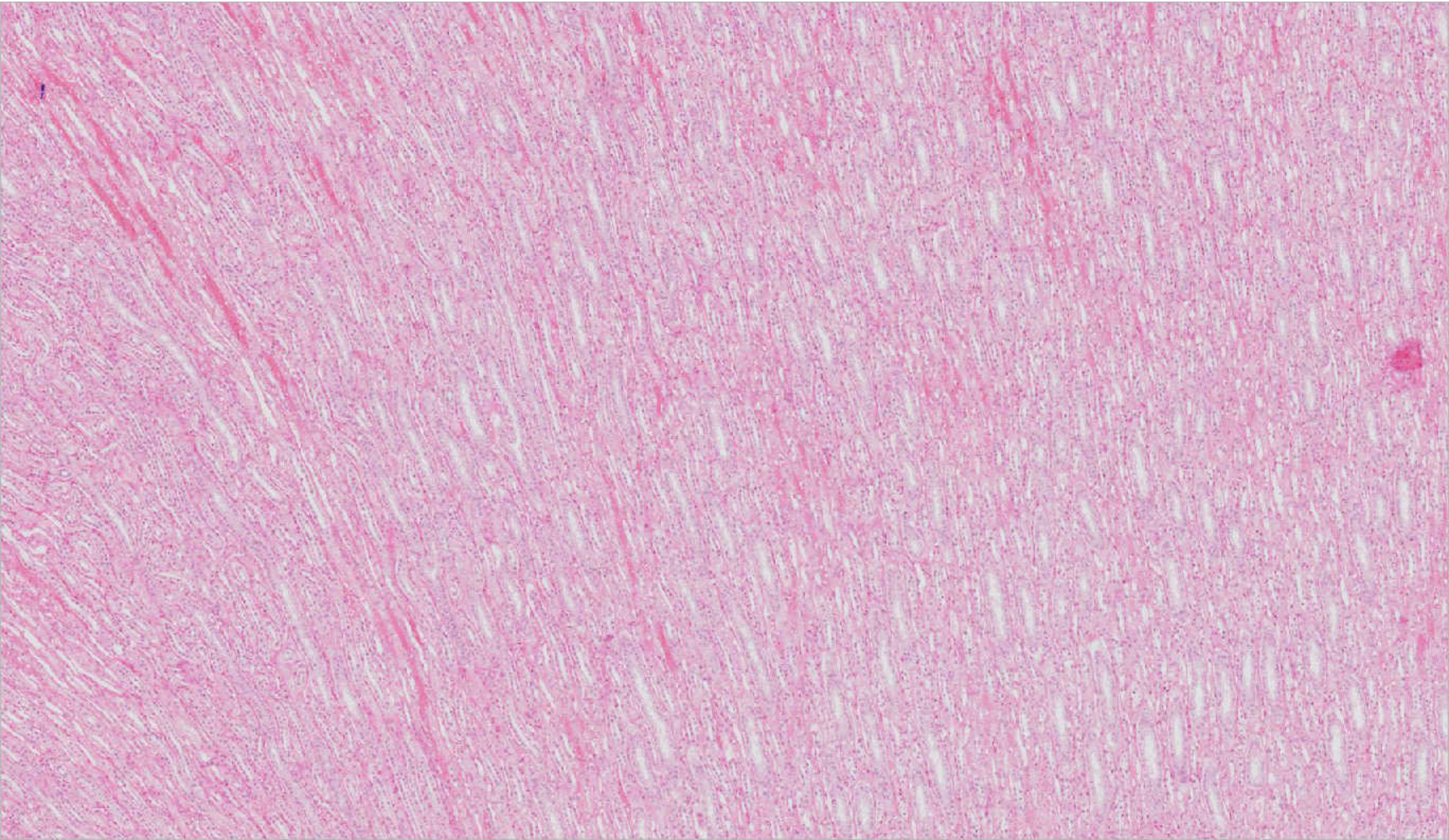
Les reins : rappel anatomique



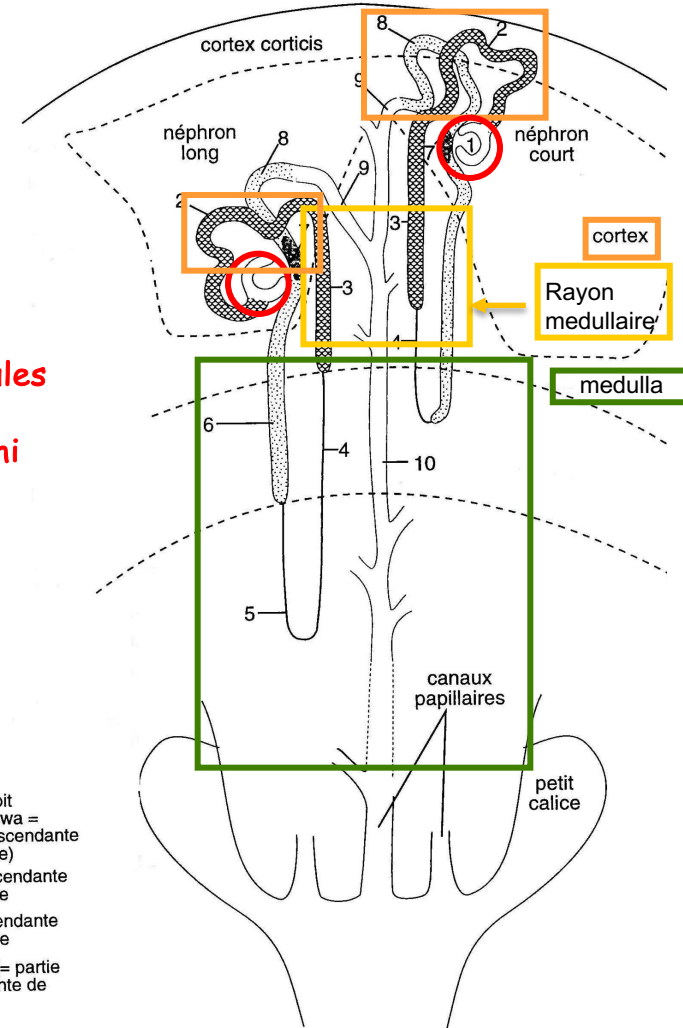
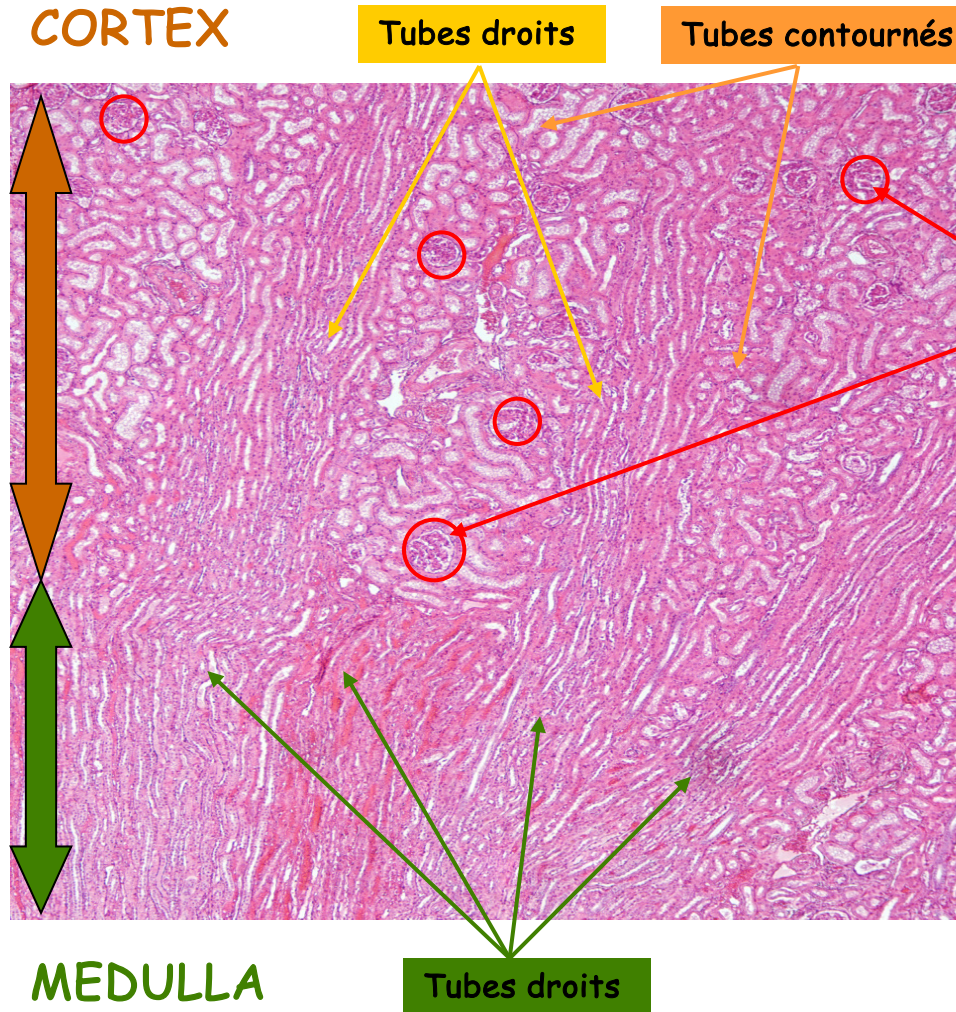
Cortex



Medulla

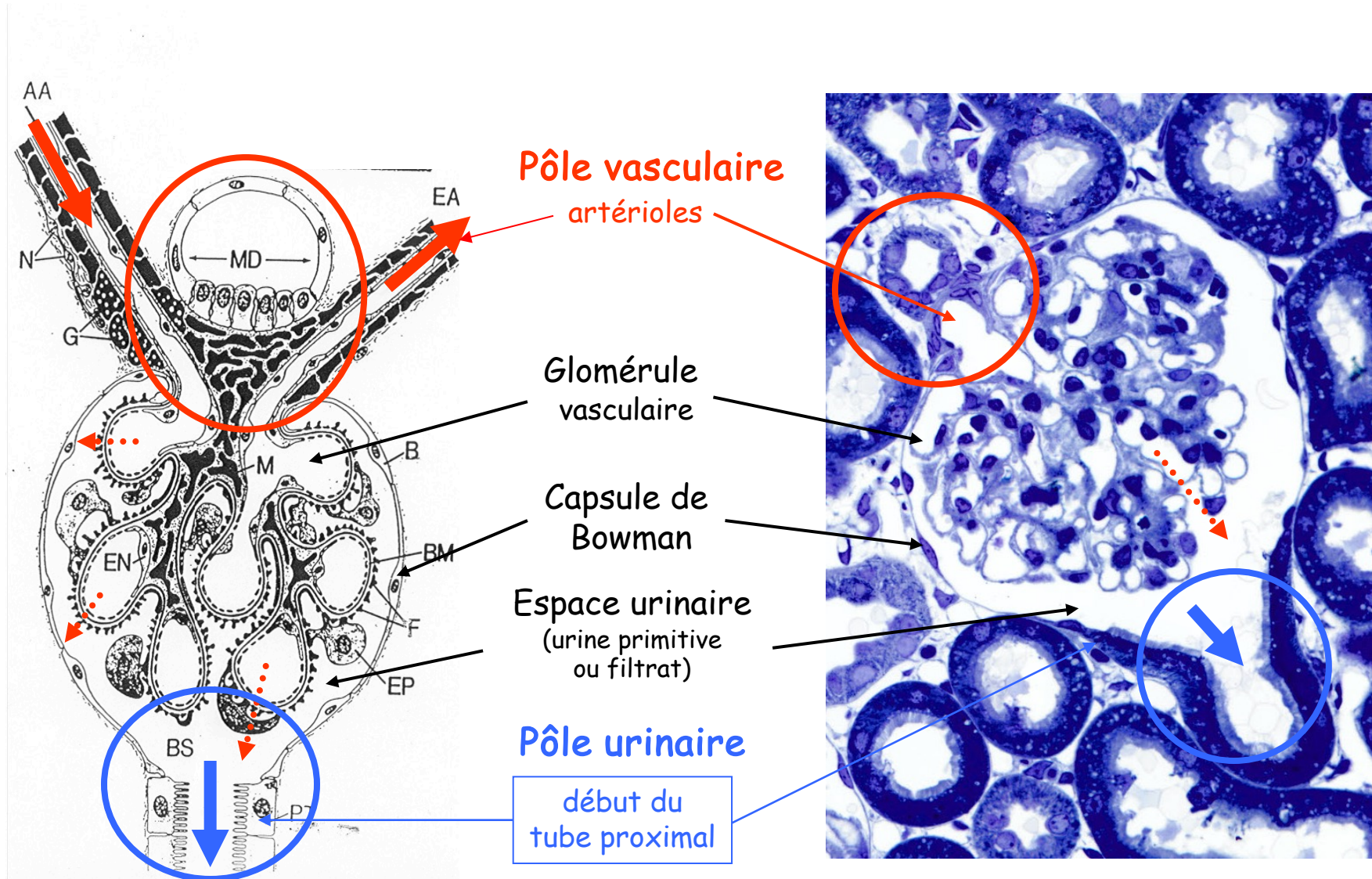


Le néphron, unité fonctionnelle du rein

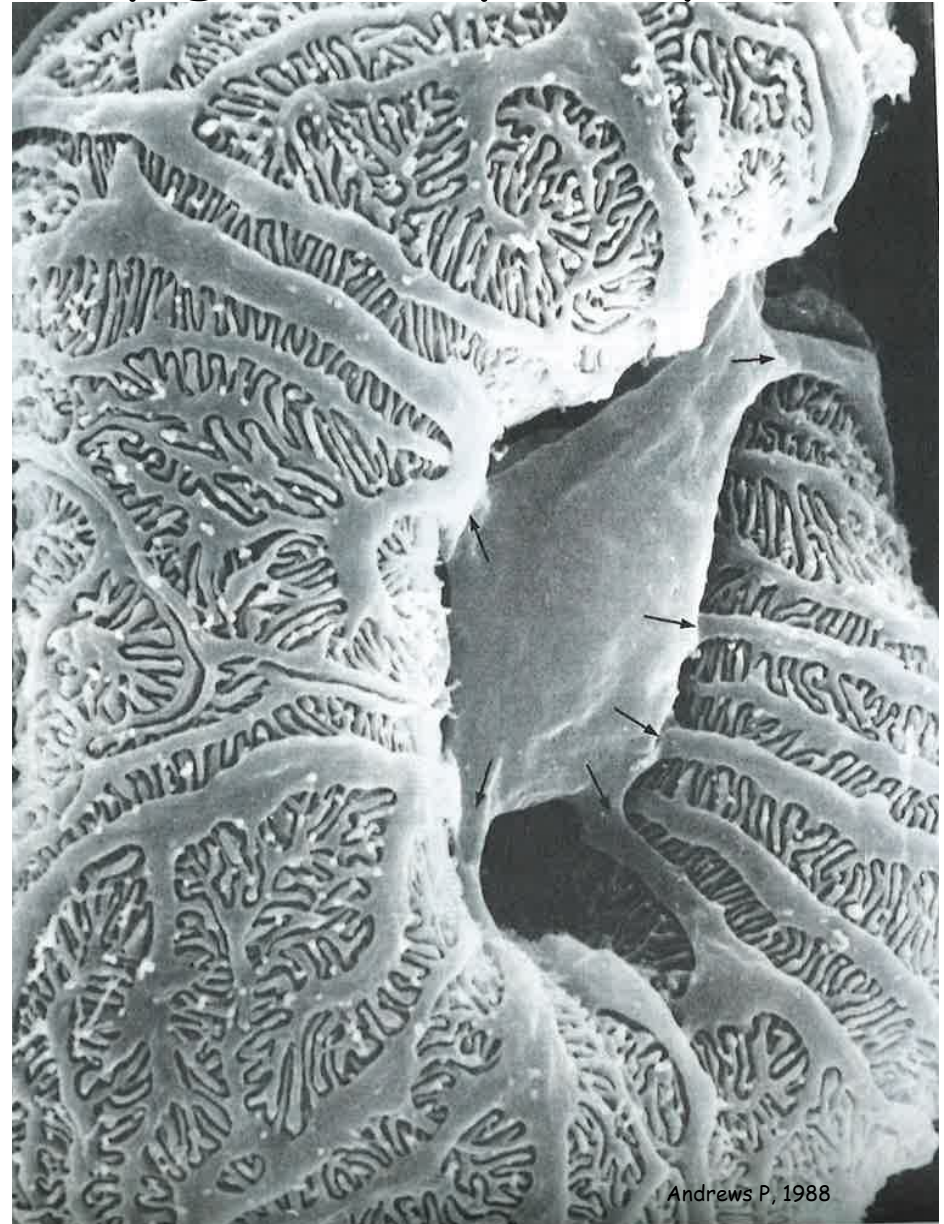
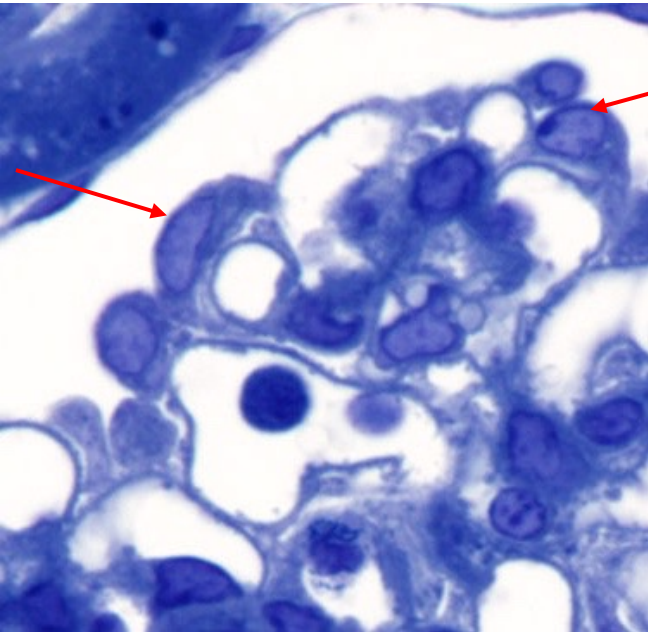


1. Glomérule (corpuscule de Malpighi)
2. Tube proximal contourné
3. Tube proximal droit (tube de Schachowa = partie épaisse descendante de l'anse de Henle)
4. Partie mince descendante de l'anse de Henle
5. Partie mince ascendante de l'anse de Henle
6. Tube distal droit (= partie épaisse ascendante de l'anse de Henle)
7. Macula densa
8. Tube contourné distal
9. Canal d'union
10. Tube collecteur (de Bellini)

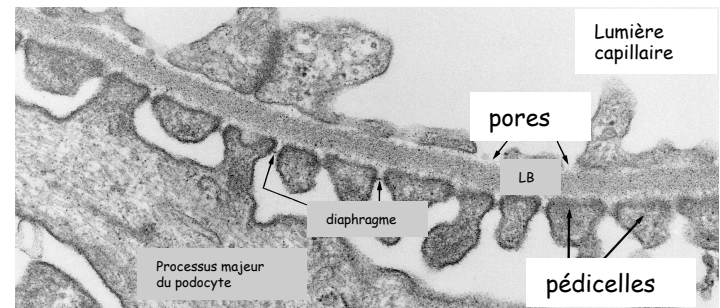
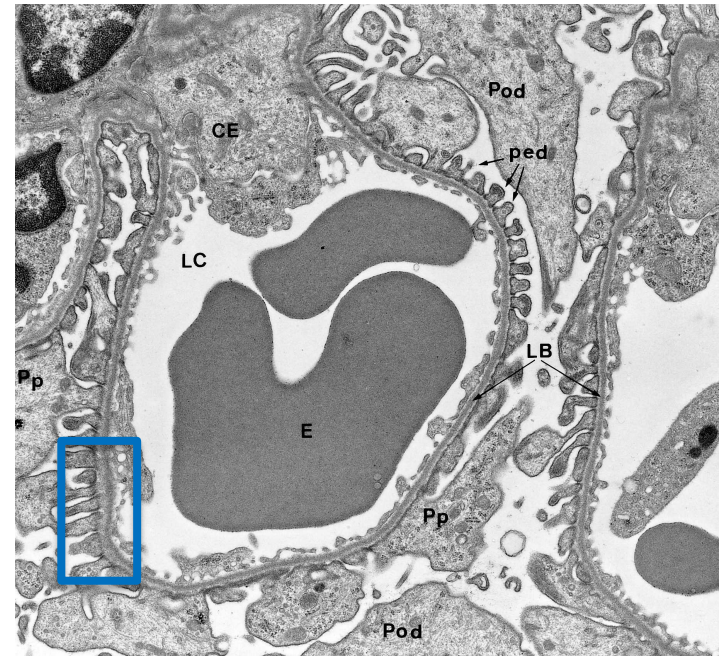
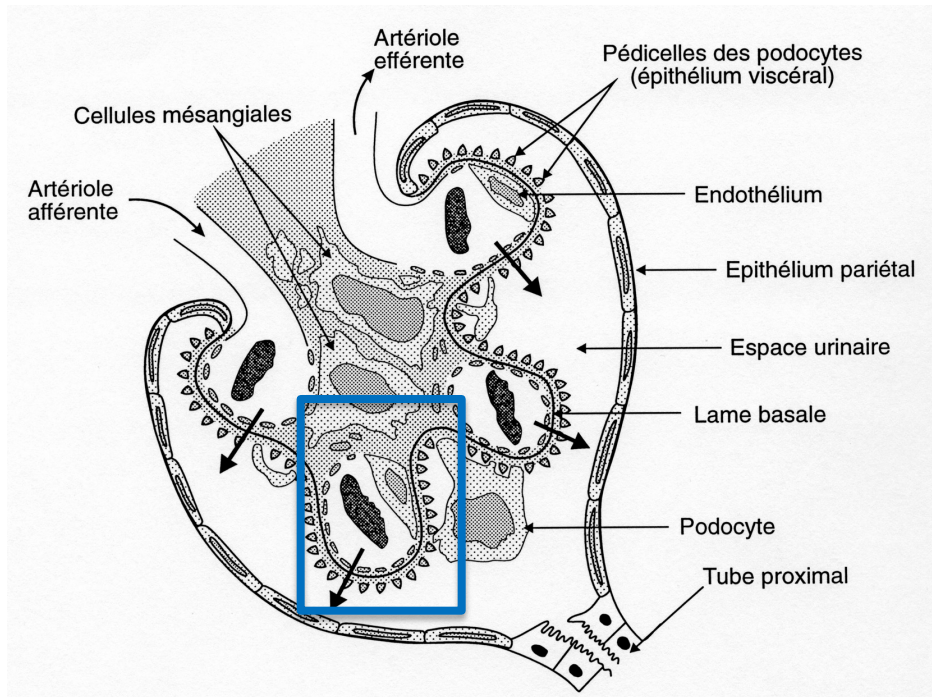
Le corpuscule de Malpighi, unité de filtration



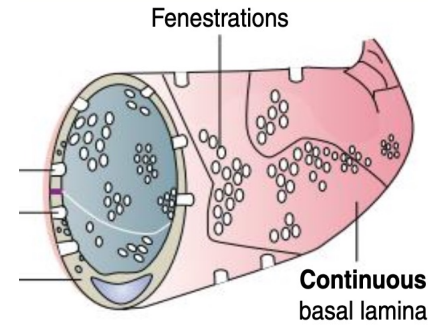
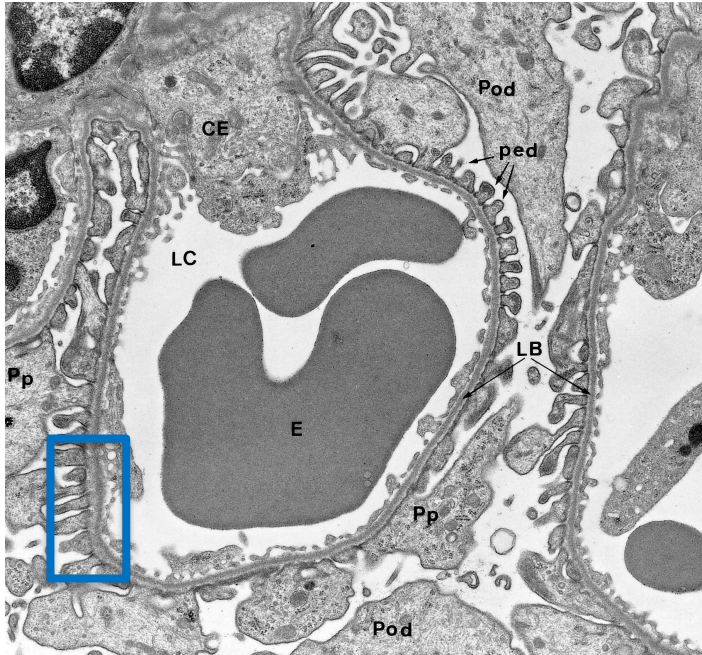
Le corpuscule de Malpighi : les podocytes



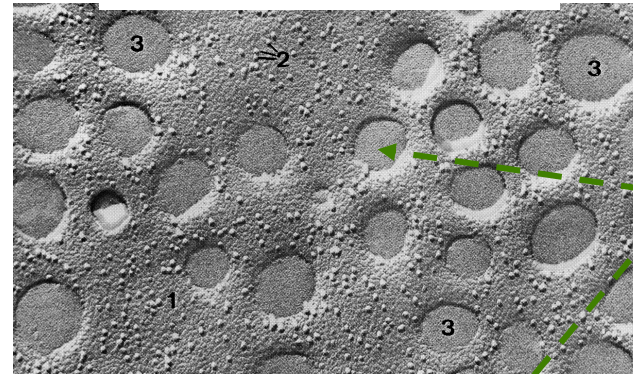
Le corpuscule de Malpighi : barrière de filtration



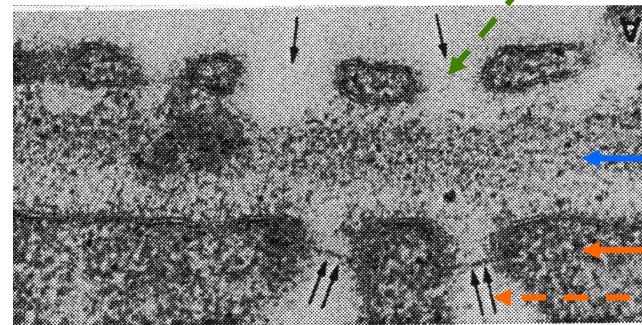
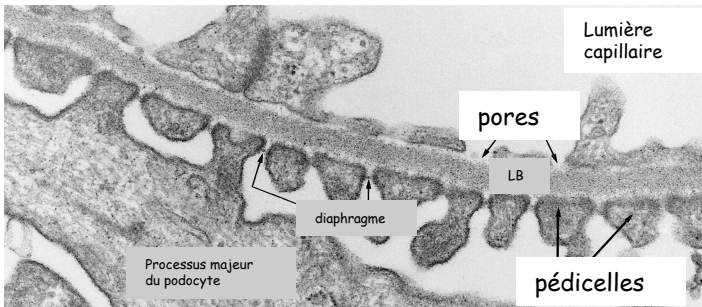
Le corpuscule de Malpighi : barrière de filtration



Endothélium fenestré
(ex: intestin, glomérule rénal)



fenestrations (ou pores) sans diaphragme



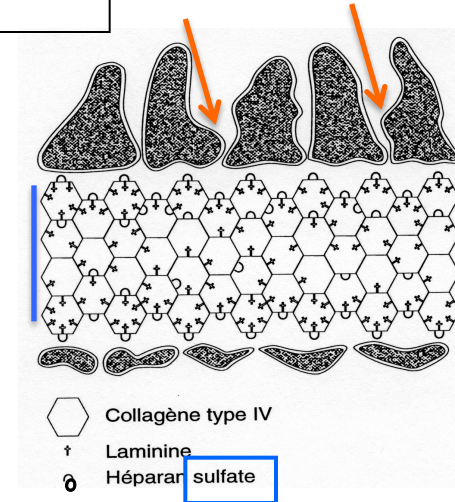
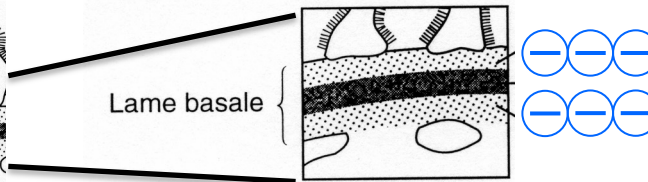
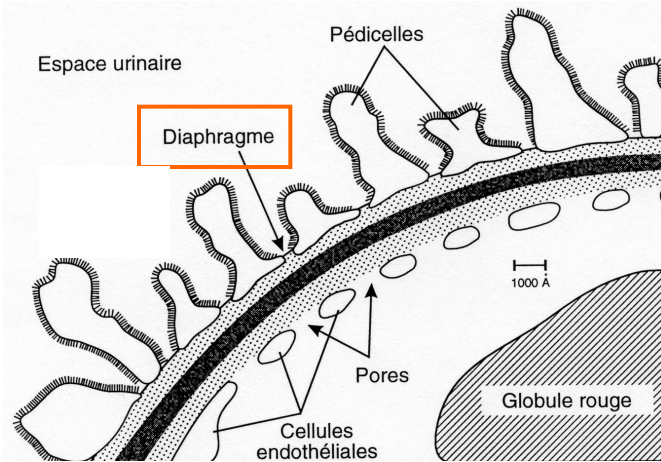
Lame basale

Pédicelles :
diaphragmes de filtration entre pédicelles

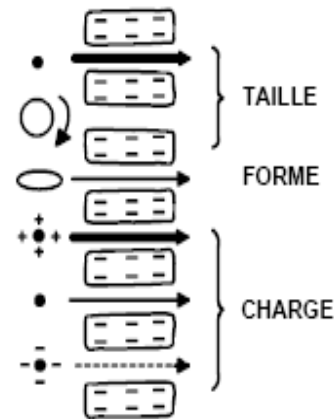
Le corpuscule de Malpighi : barrière de filtration

Séparation entre sang & espace urinaire :

- lame basale entre endothélium et pédicelles
- diaphragme entre pédicelles adjacents

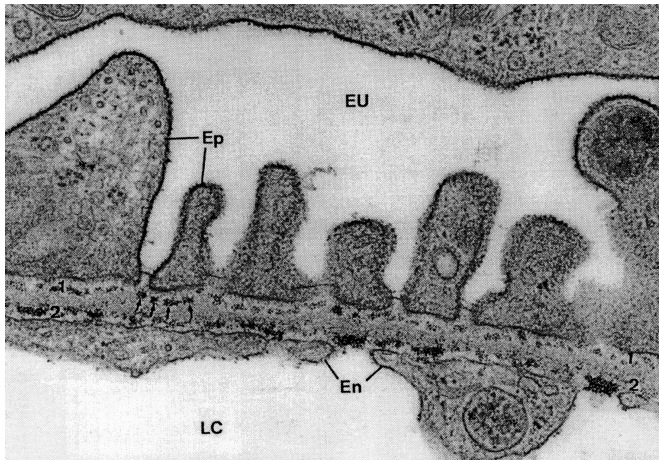


FACTEURS DE TAMISAGE



FILTRE GLOMÉRULAIRE

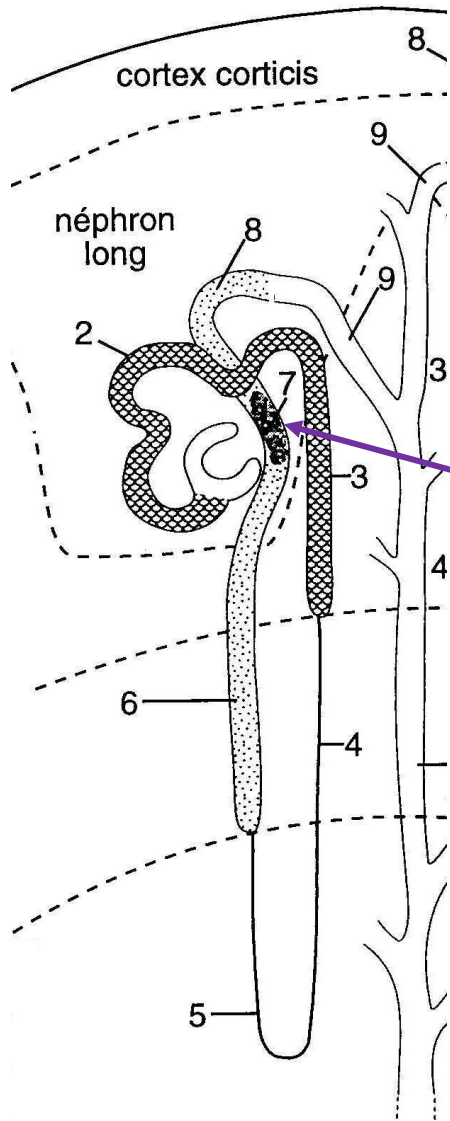
Cours Prof. A. Baertschi / E Feraille



D'après Martinez-Hernandez and P.S. Amenta.
Lab. Invest. 48 656-677 (1983)

L'appareil juxta-glomérulaire

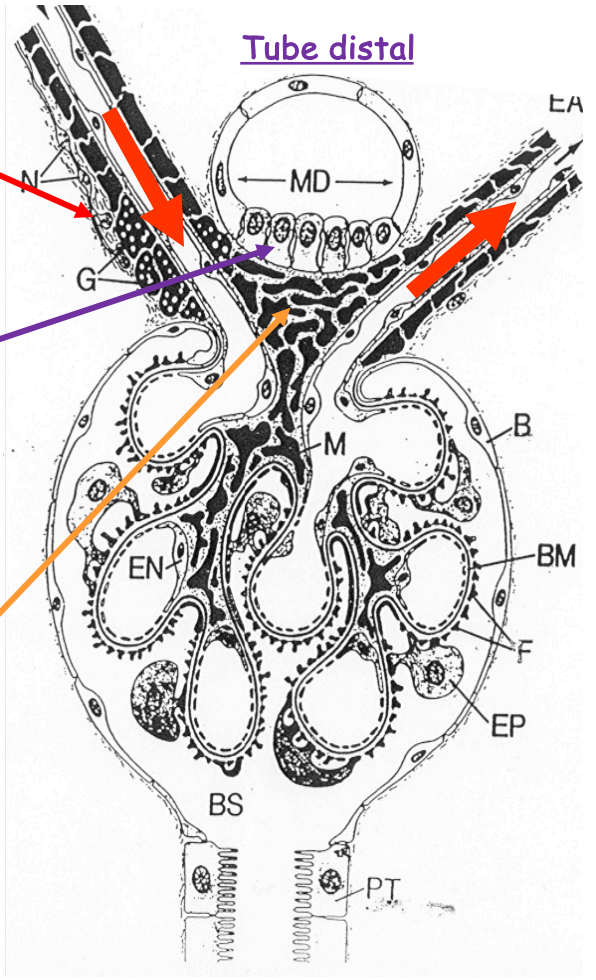
Pôle
vasculaire



Cellules granulaires
(juxta-glomérulaires)

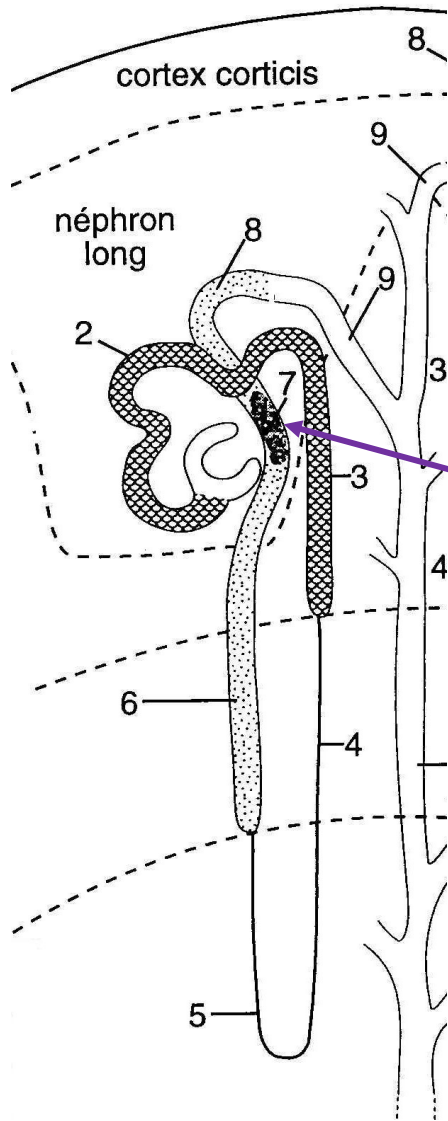
Macula densa

Cellules mésangiales
extra-glomérulaires



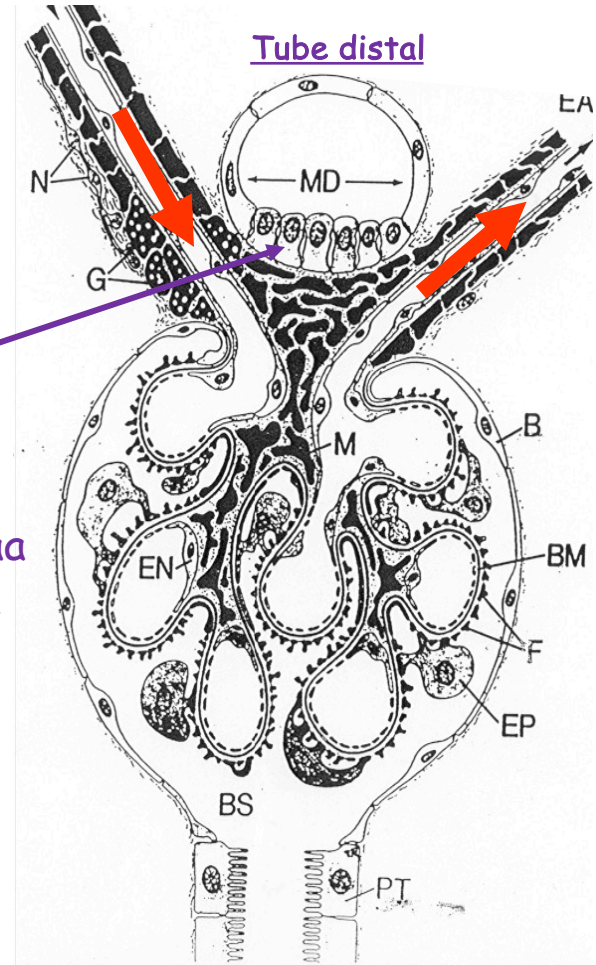
L'appareil juxta-glomérulaire

Pôle
vasculaire



Macula densa

-> senseur de flux ($[NaCl]$)
Trop élevé -> contraction aa
Trop faible -> dilatation aa



L'appareil juxta-glomérulaire

Pôle
vasculaire

Production
de rénine

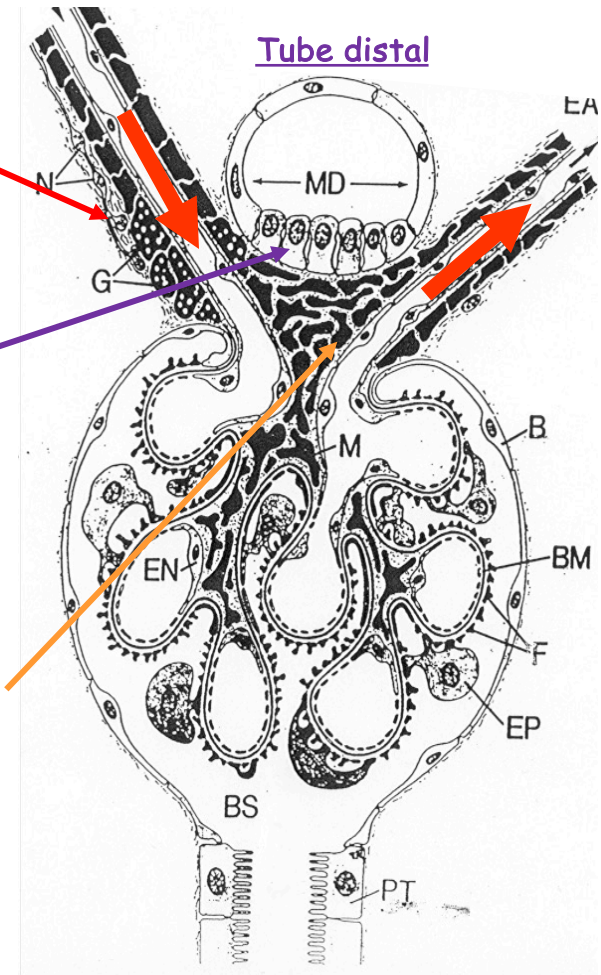
Cellules granuleuses
(juxta-glomérulaires)

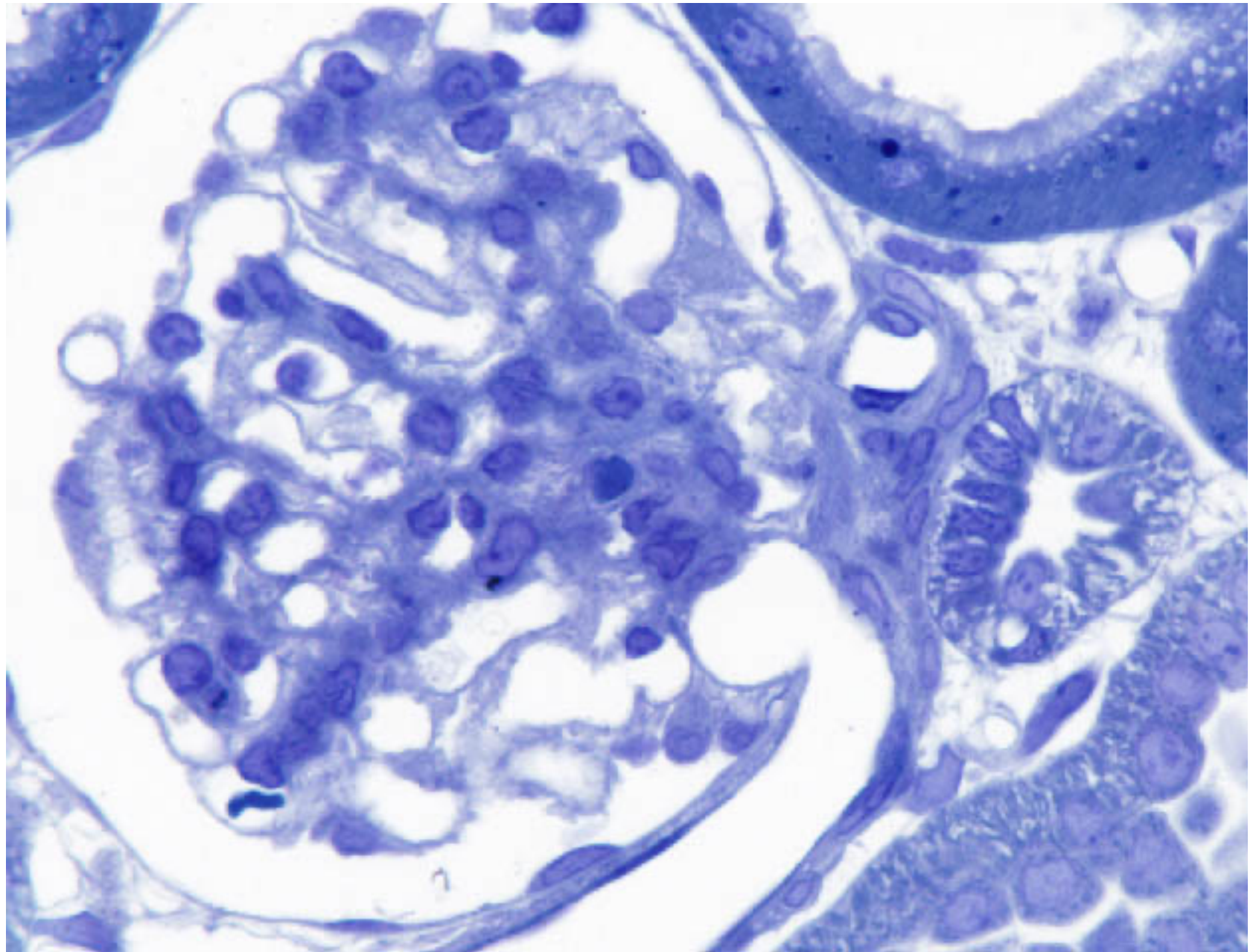
Senseur de flux

Macula densa

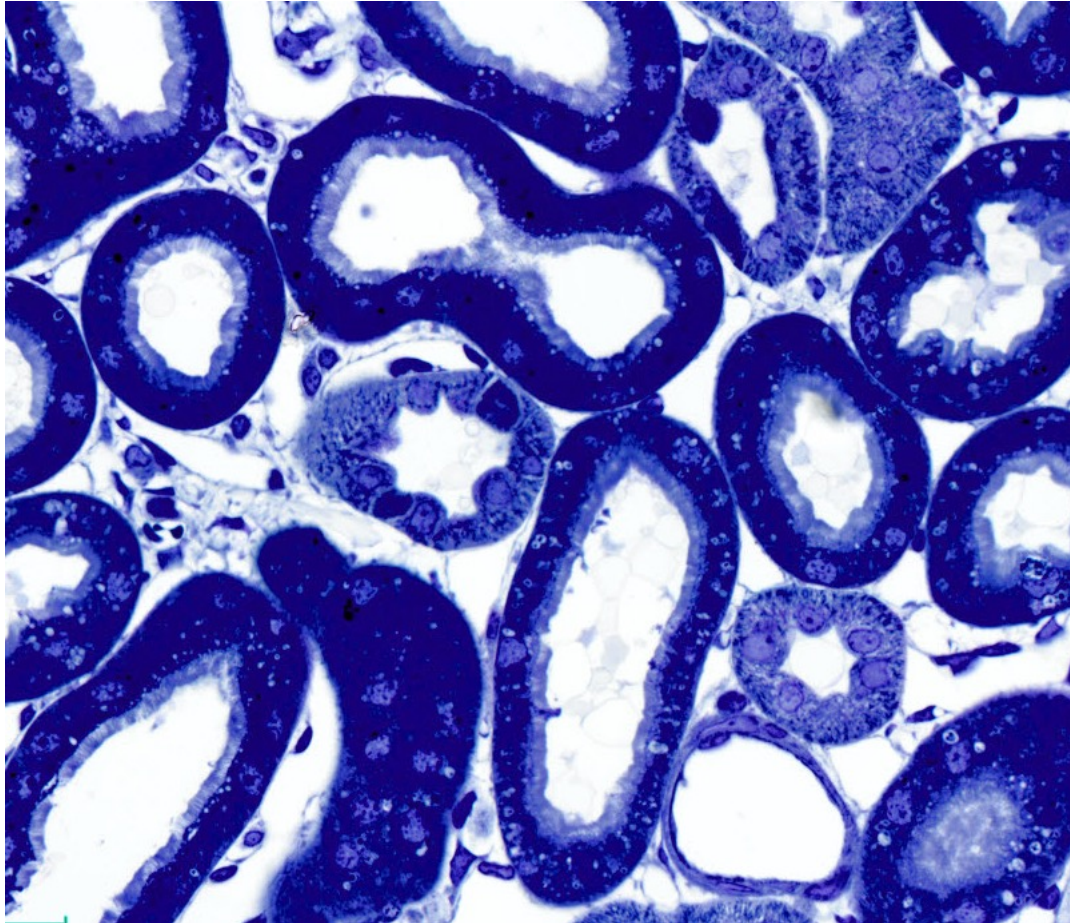
Fonction ?

Cellules mésangiales
extra-glomérulaires





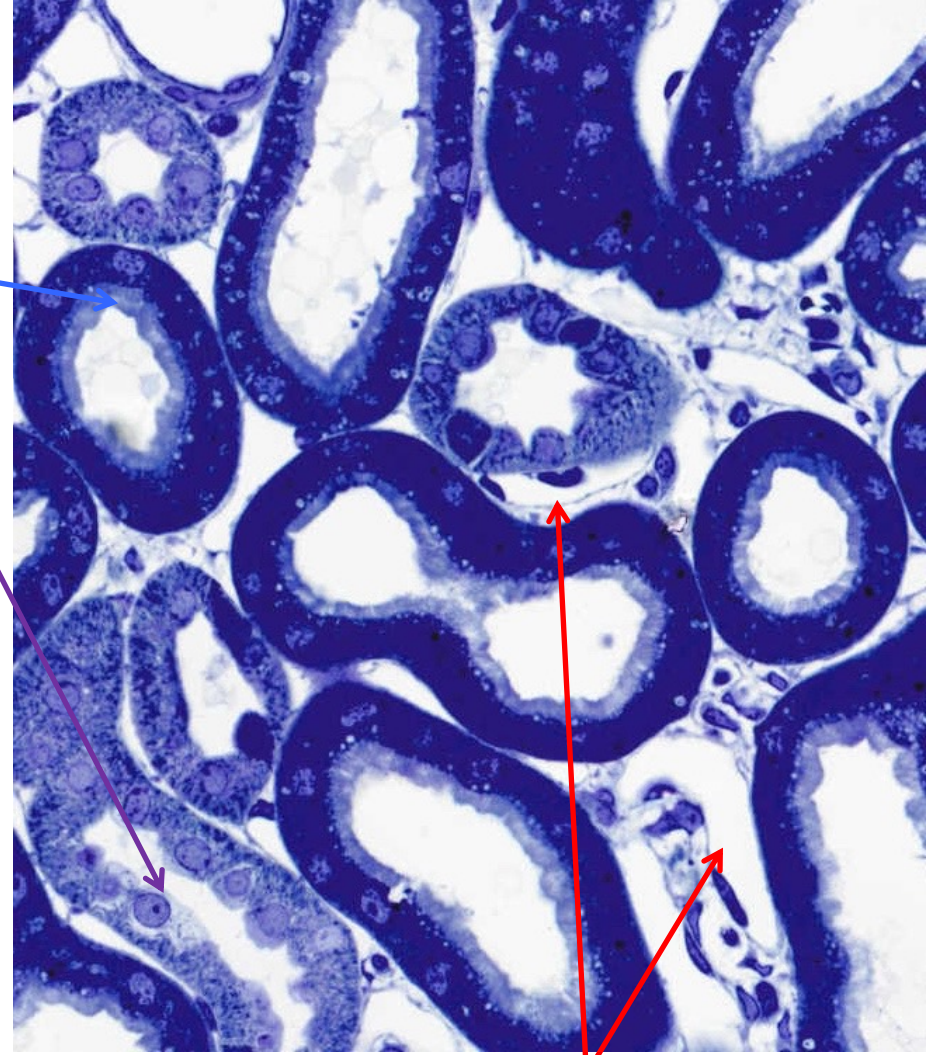
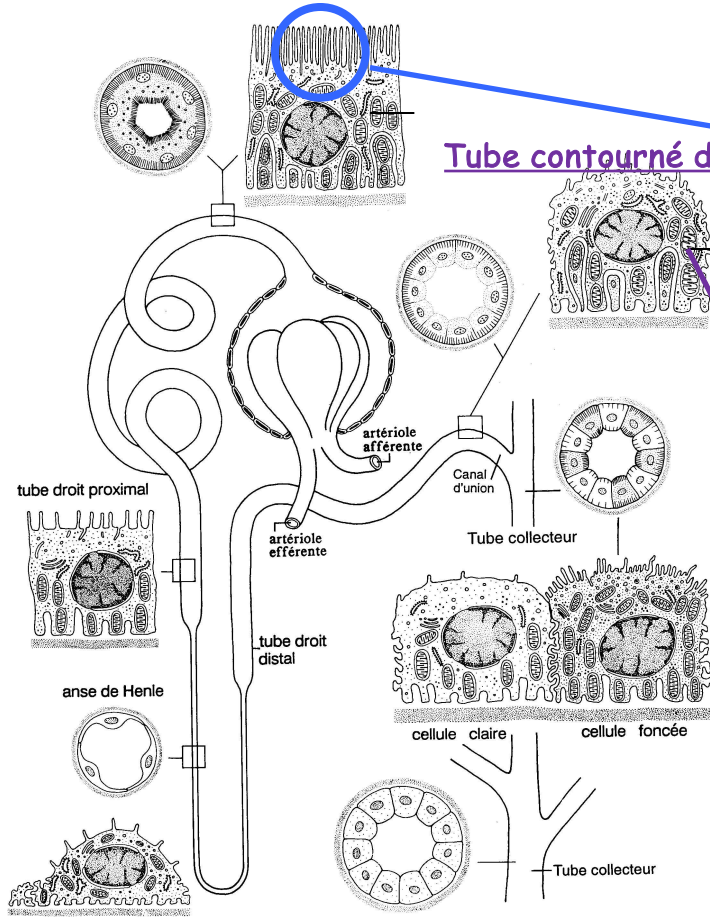
Les tubes rénaux



Les tubes rénaux

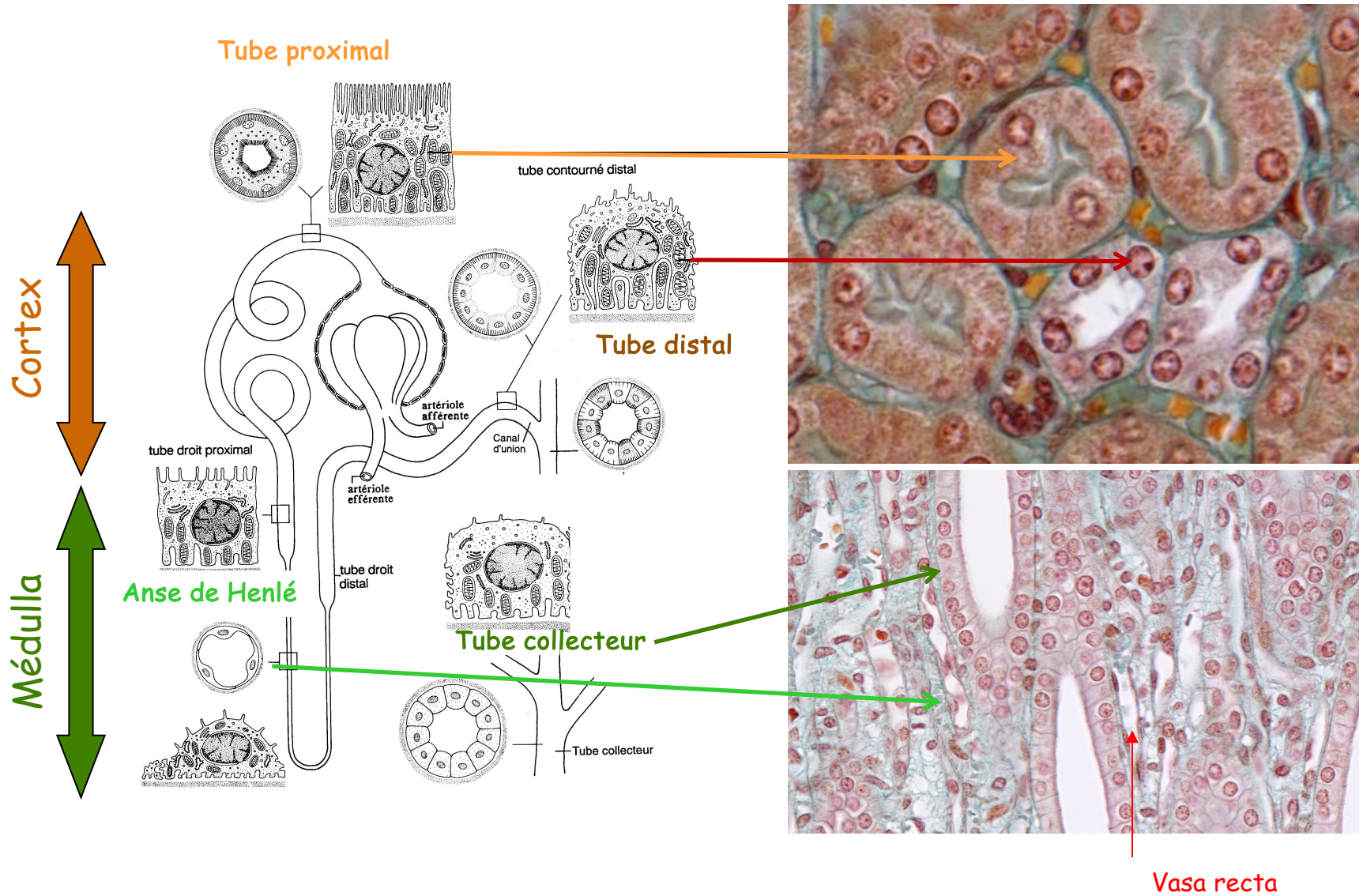
Tube contourné proximal
Microvillosités (bordure en brosse)

Cortex
Médulla



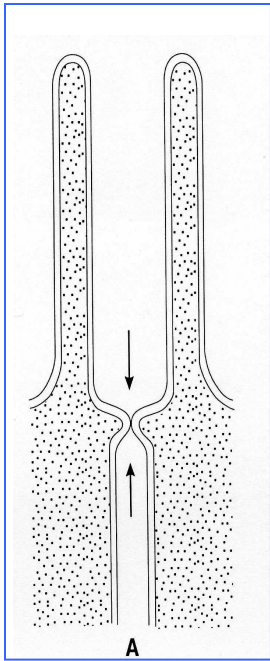
Capillaires péritubulaires

Les tubes rénaux

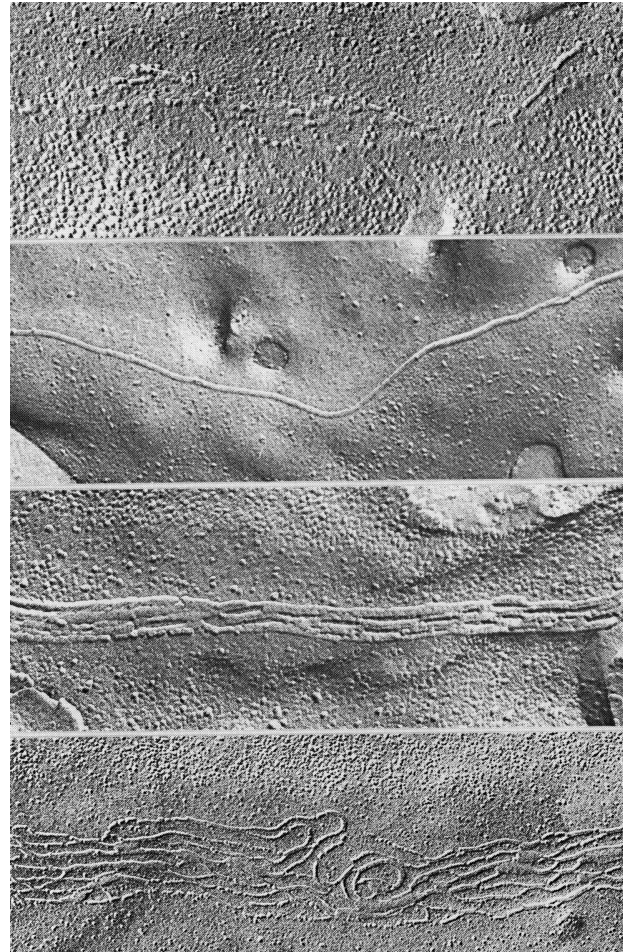
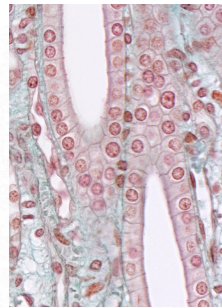
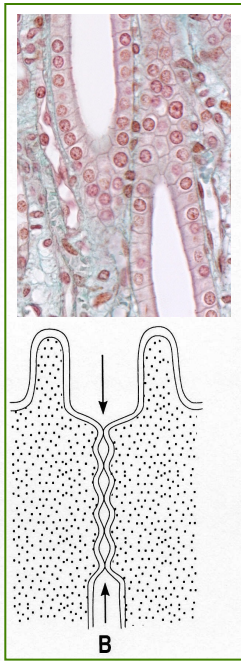


Jonctions serrées et perméabilité transépithéliale

Tube proximal



Tube collecteur



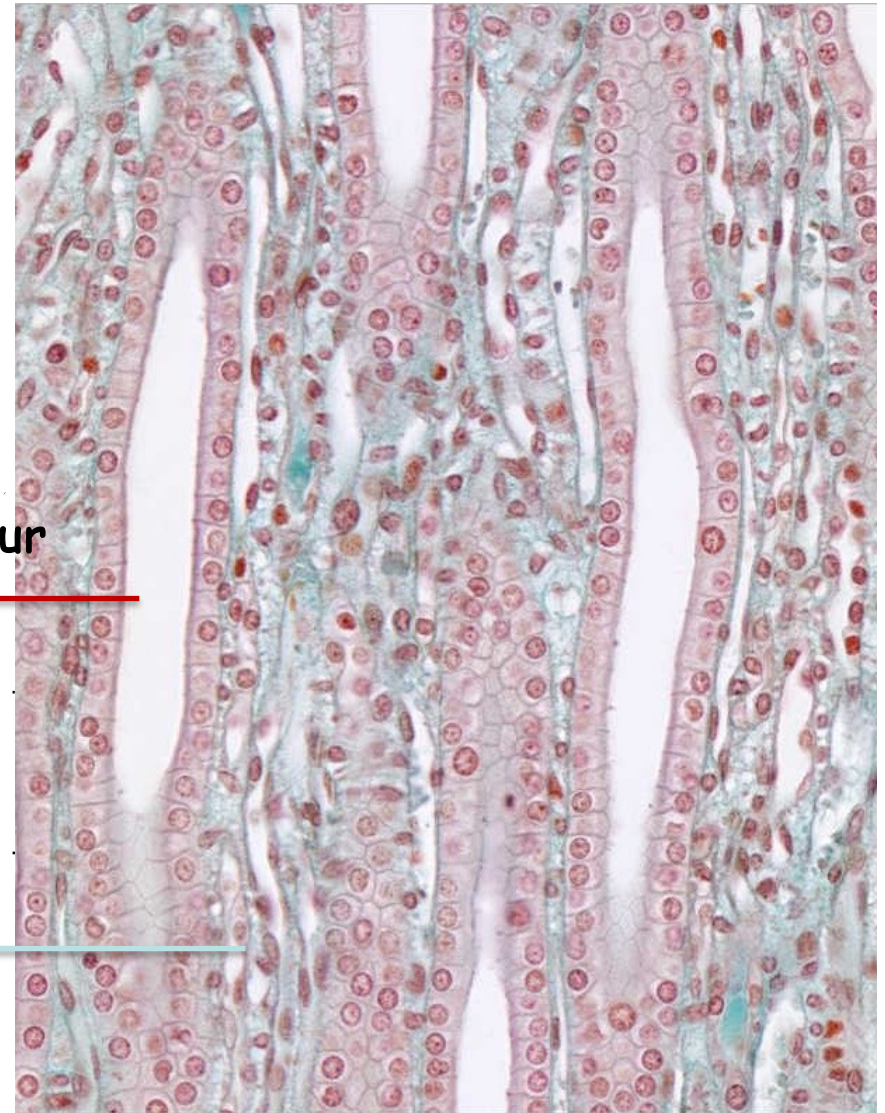
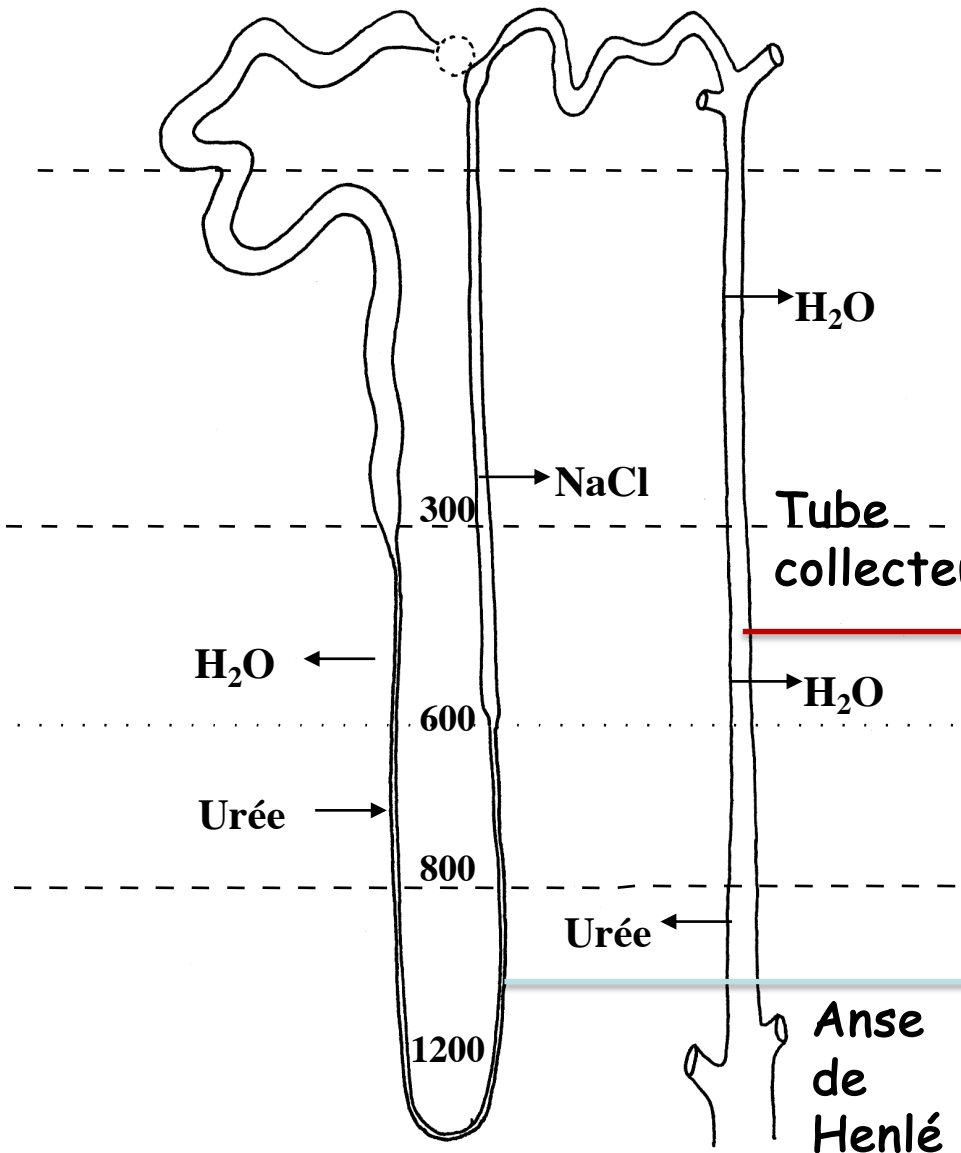
Tube proximal

Anse de Henle,
partie mince

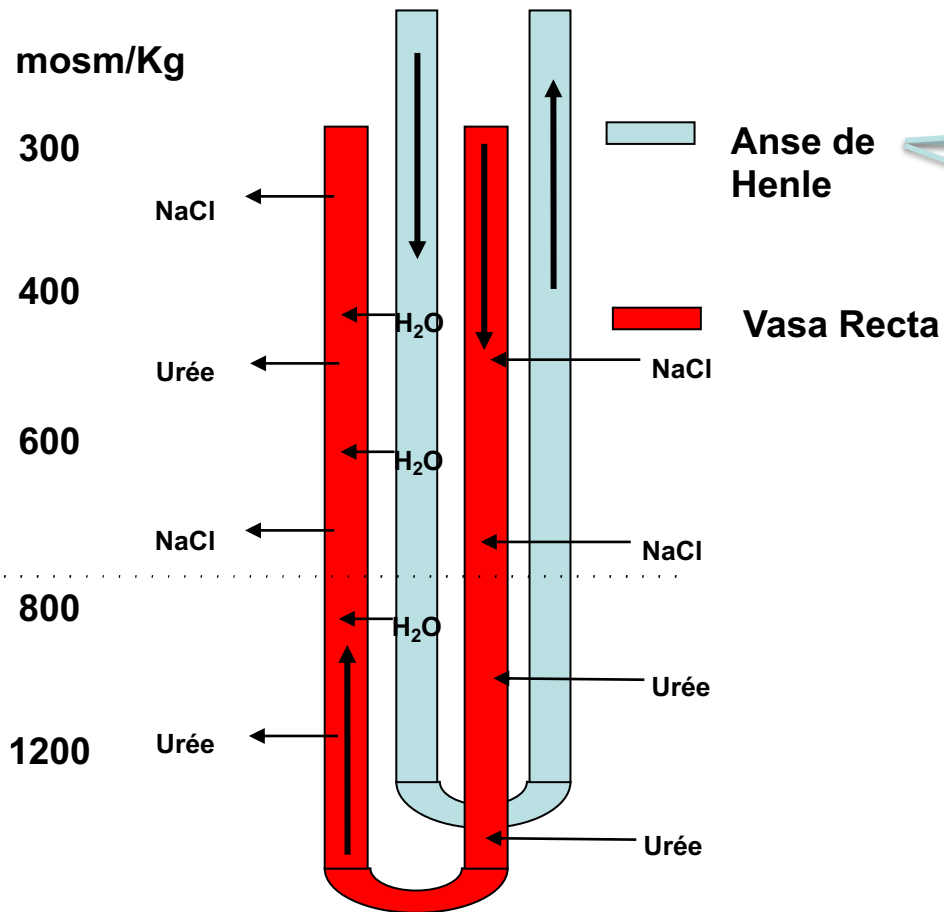
Tube distal

Tube collecteur

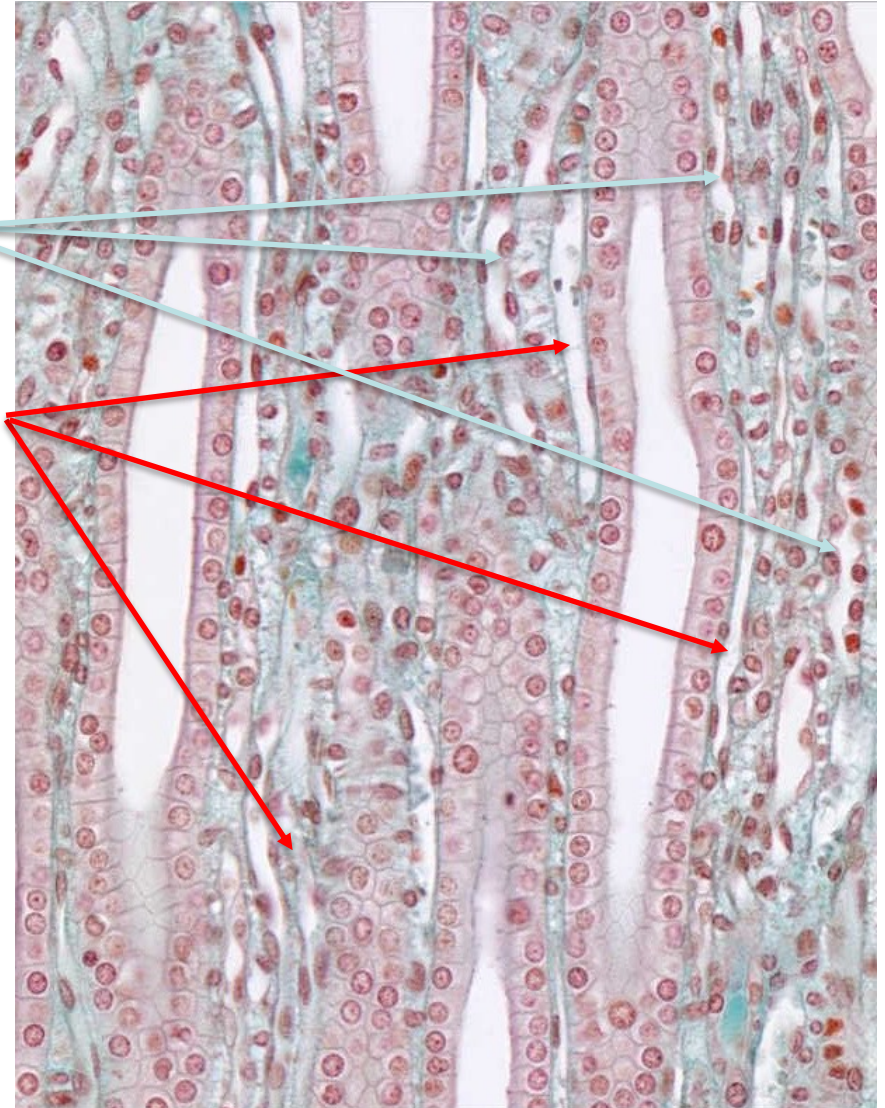
Gradient osmotique cortico-papillaire et réabsorption d'eau : anses de Henlé et tubes collecteurs



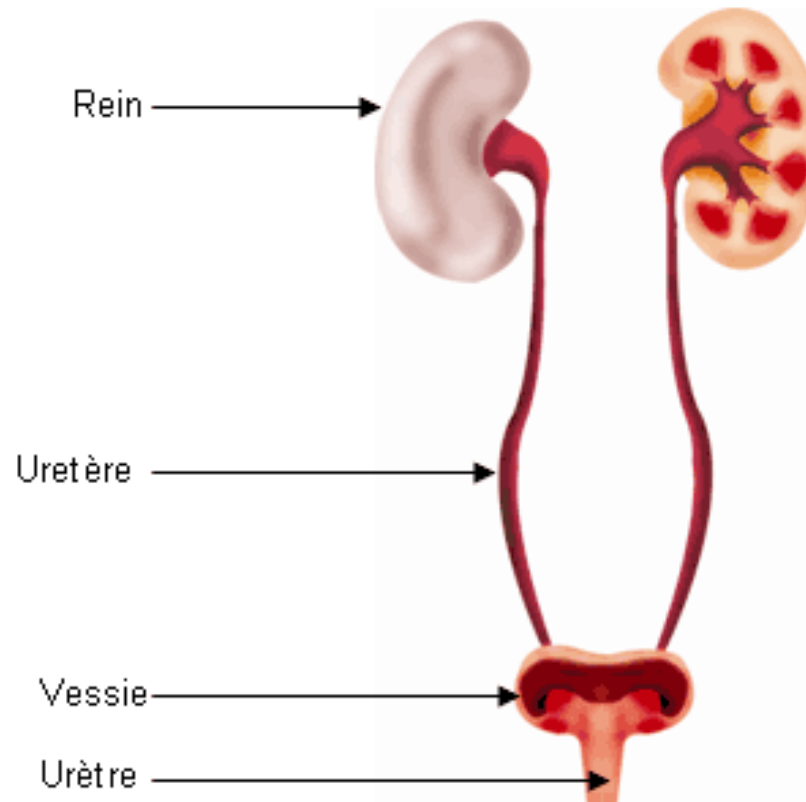
Maintien du gradient osmotique cortico-papillaire : les vasa-recta

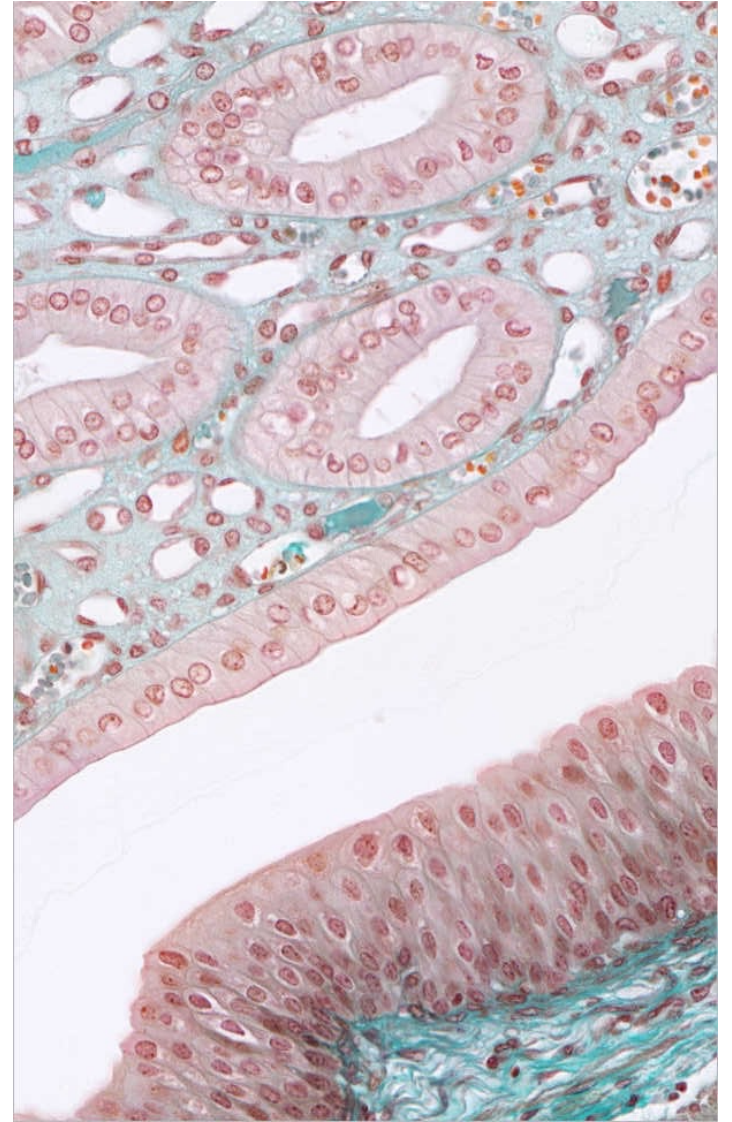


Cours E. Feraille

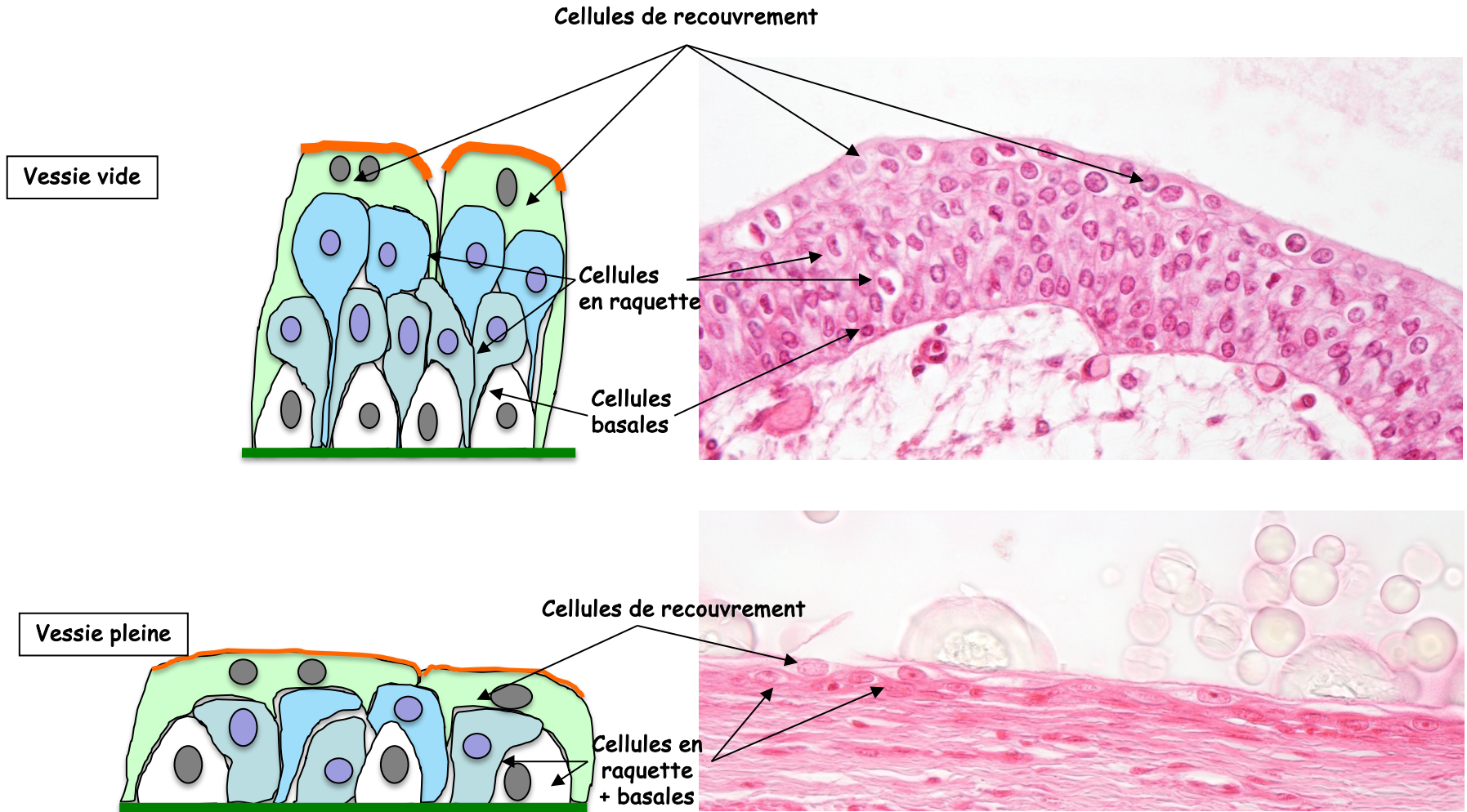


Les voies urinaires



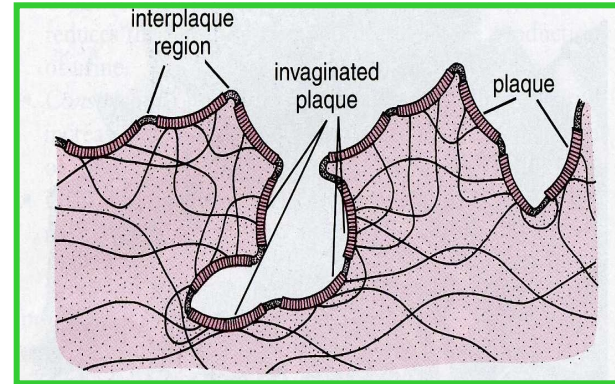
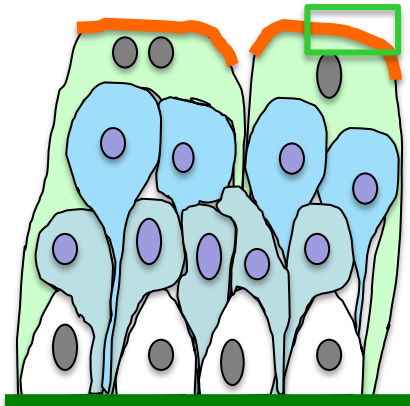


Epithélium de transition ou urothélium



Epithélium de transition ou urothélium

Vessie vide



Vessie pleine

