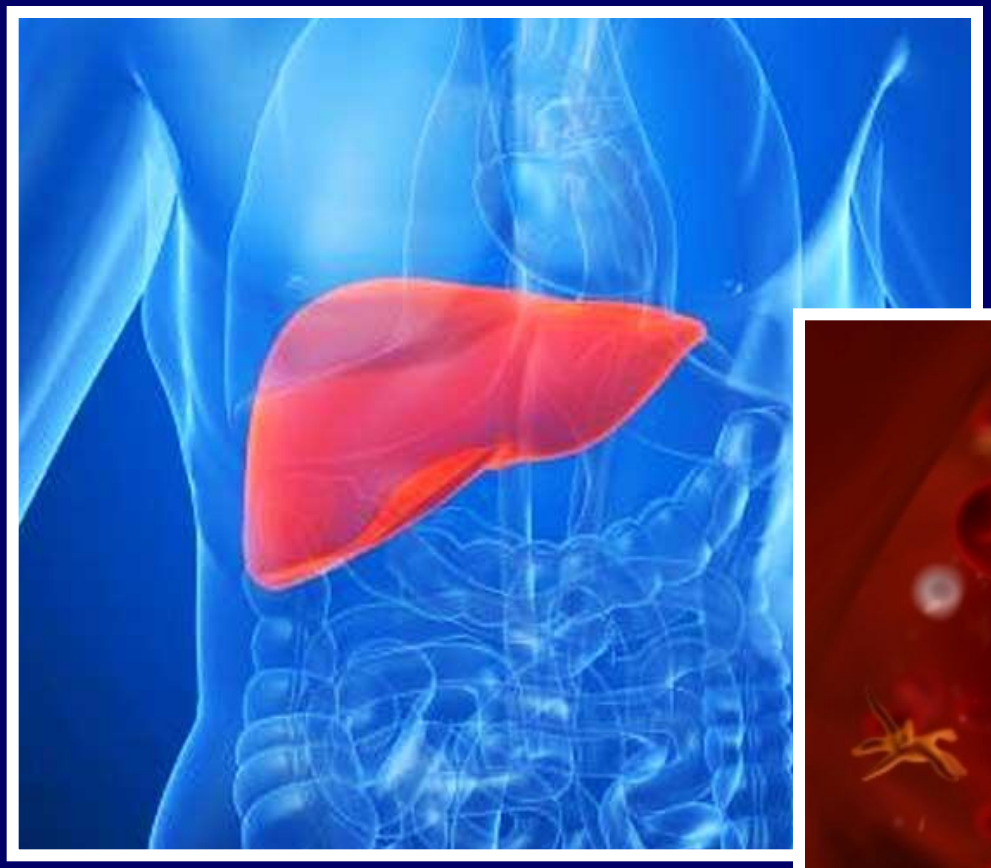
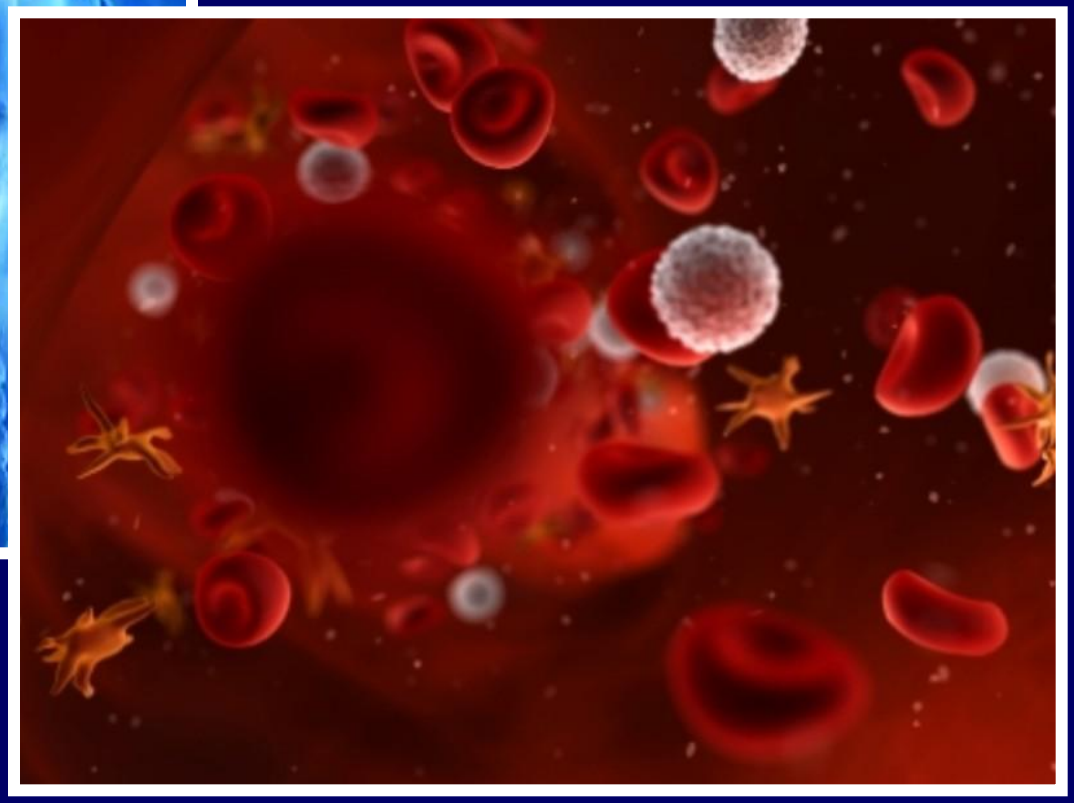
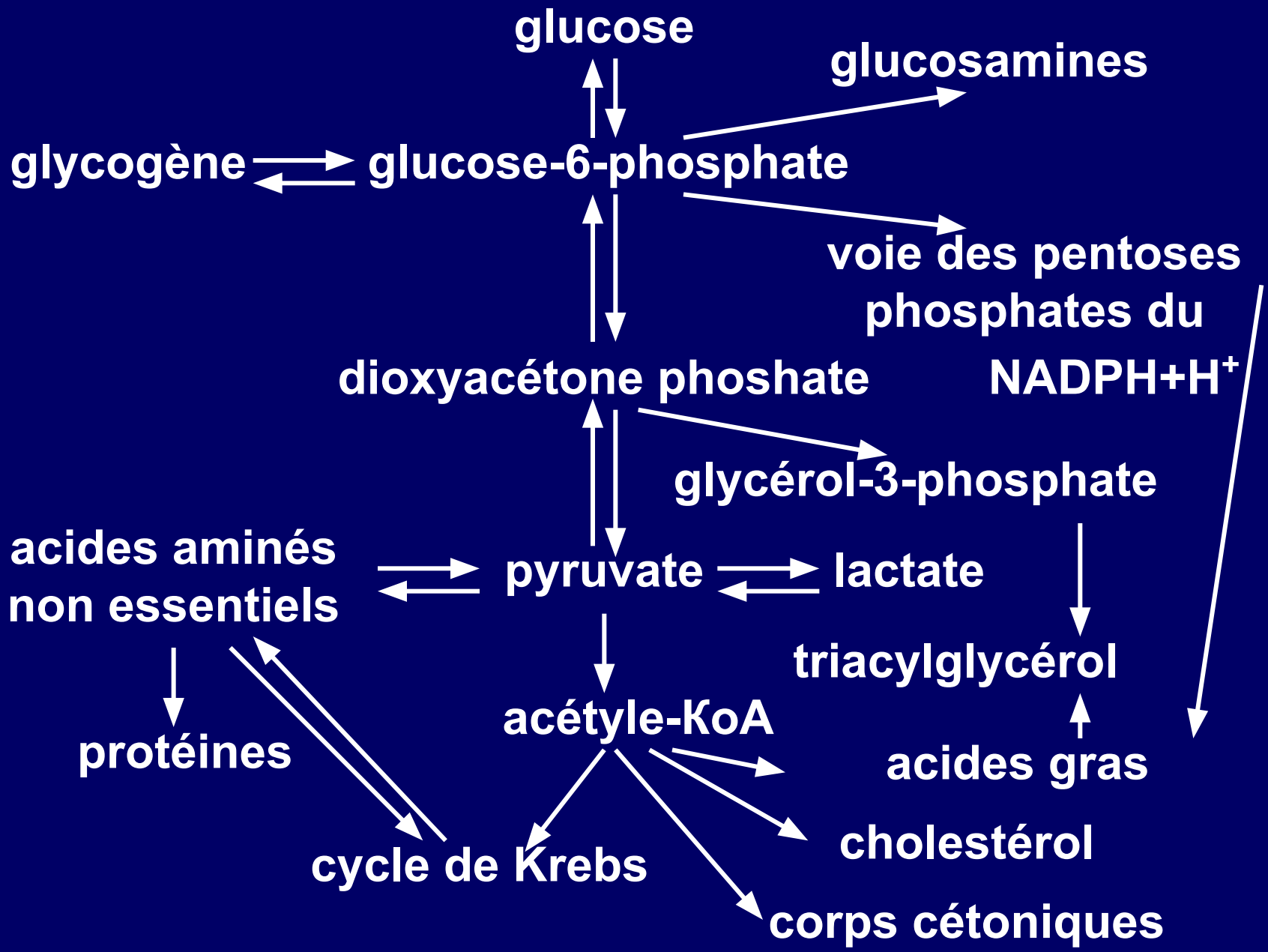
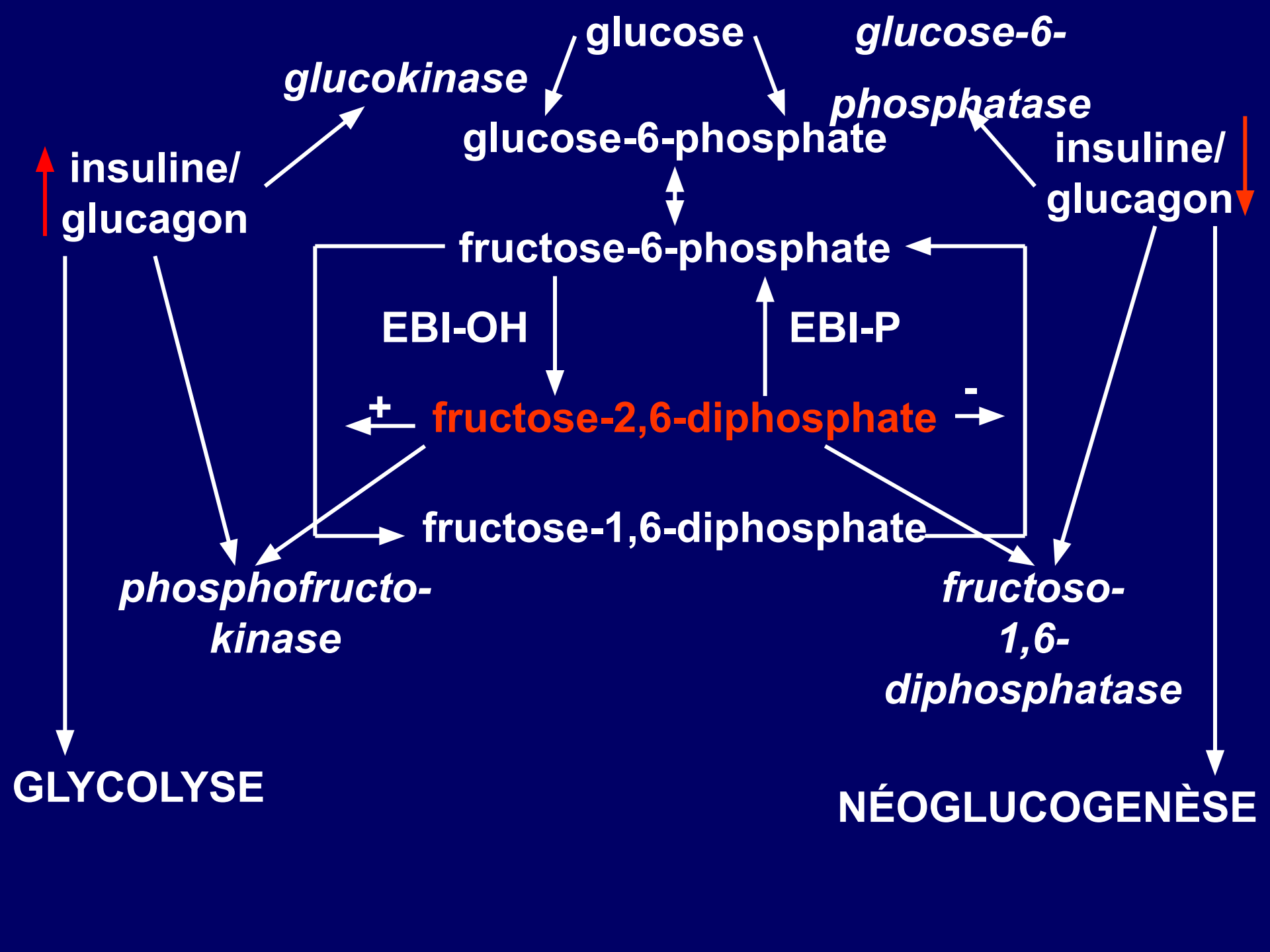
BIOCHIMIE DU FOIE ET DU SANG



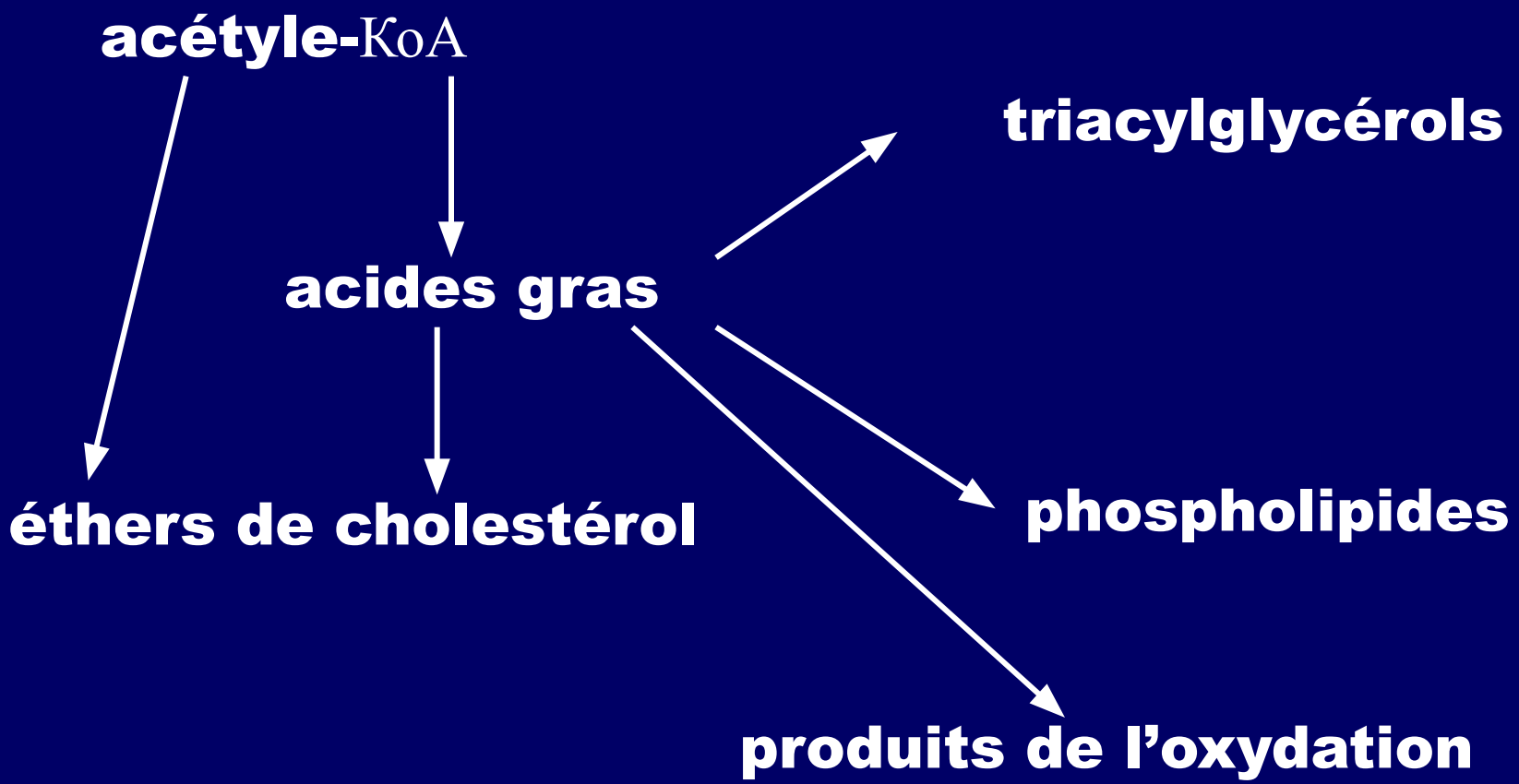


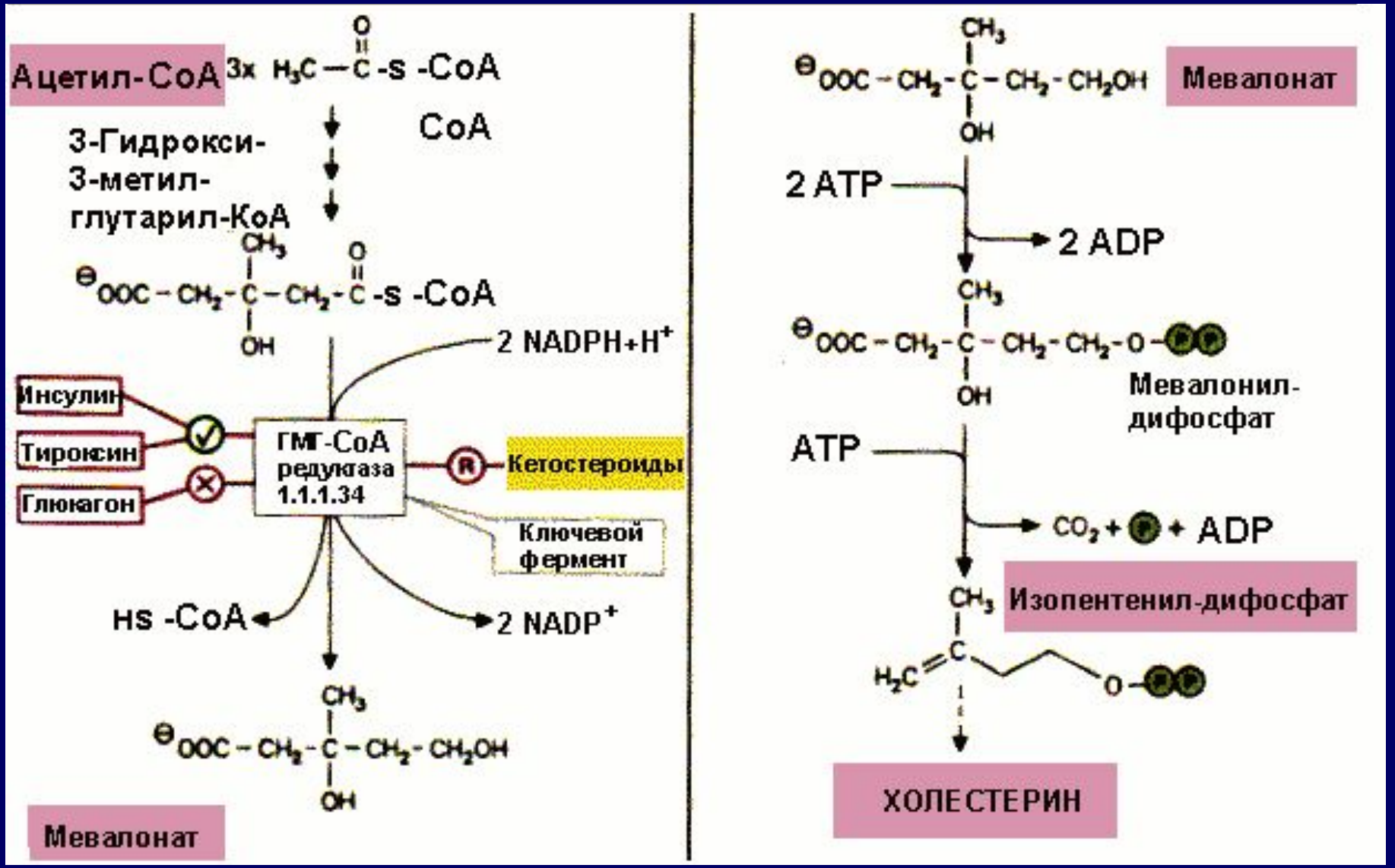
FOIE ET MÉTABOLISME DES GLUCIDES




glucose
glucose-6-phosphatase
glucokinase
glucose-6-phosphate
insuline/ glucagon
insuline/ glucagon
fructose-6-phosphate
EBI-OH
EBI-P
+
fructose-2,6-diphosphate
-
fructose-1,6-diphosphate
phosphofructo-kinase
fructoso-1,6-diphosphatase
GLYCOLYSE
NÉOGLUCOGENÈSE

FOIE ET MÉTABOLISME DES LIPIDES

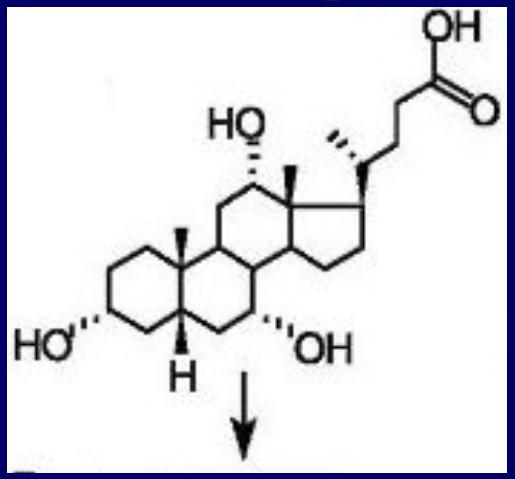



Ацетил-CoA
3x
-s -CoA
CoA
3-Гидрокси-
3-метил-
глутарил-КоА
-s -CoA
2 NADPH+H+
Инсулин
Тироксин
Глюкагон
ГМГ-CoA
редуктаза
1.1.1.34
Кетостероиды
Ключевой
фермент
HS -CoA
2 NADP+
Мевалонат
Мевалонат
2 ATP
2 ADP
Мевалонил-
дифосфат
ATP
ADP
Изопентенил-дифосфат
ХОЛЕСТЕРИН

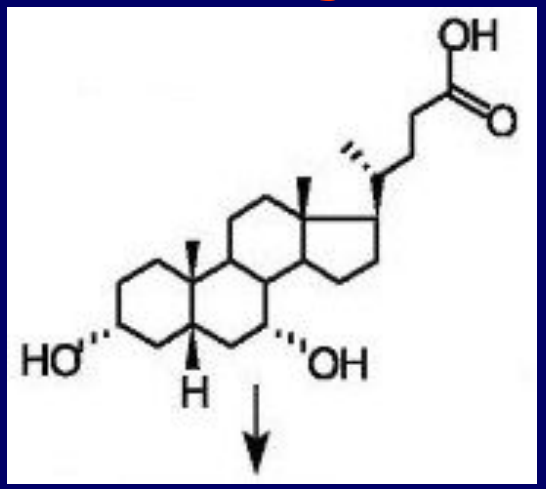
BILIGENÈSE

foie

acide cholique

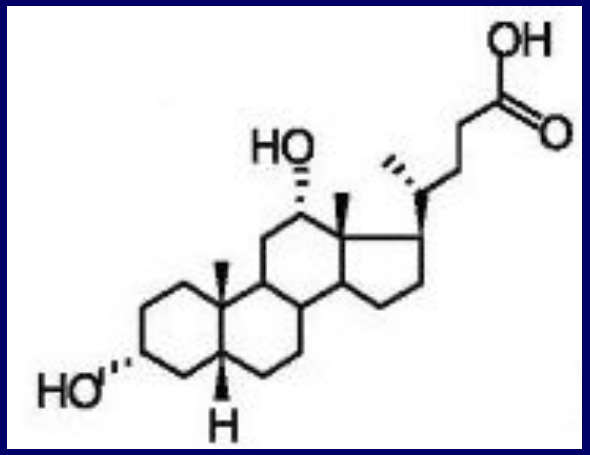


acide chénodésoxycholique

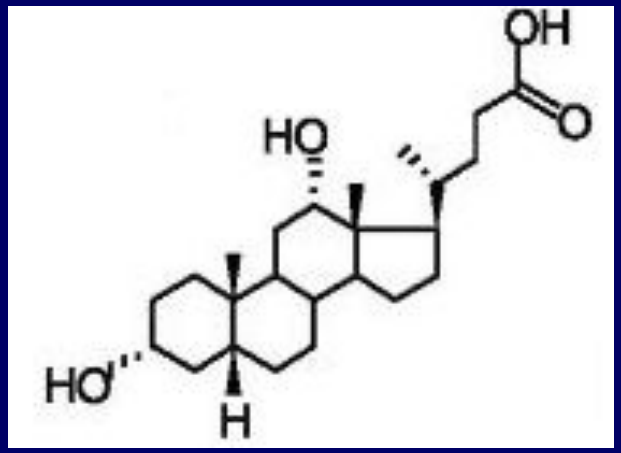


intestin

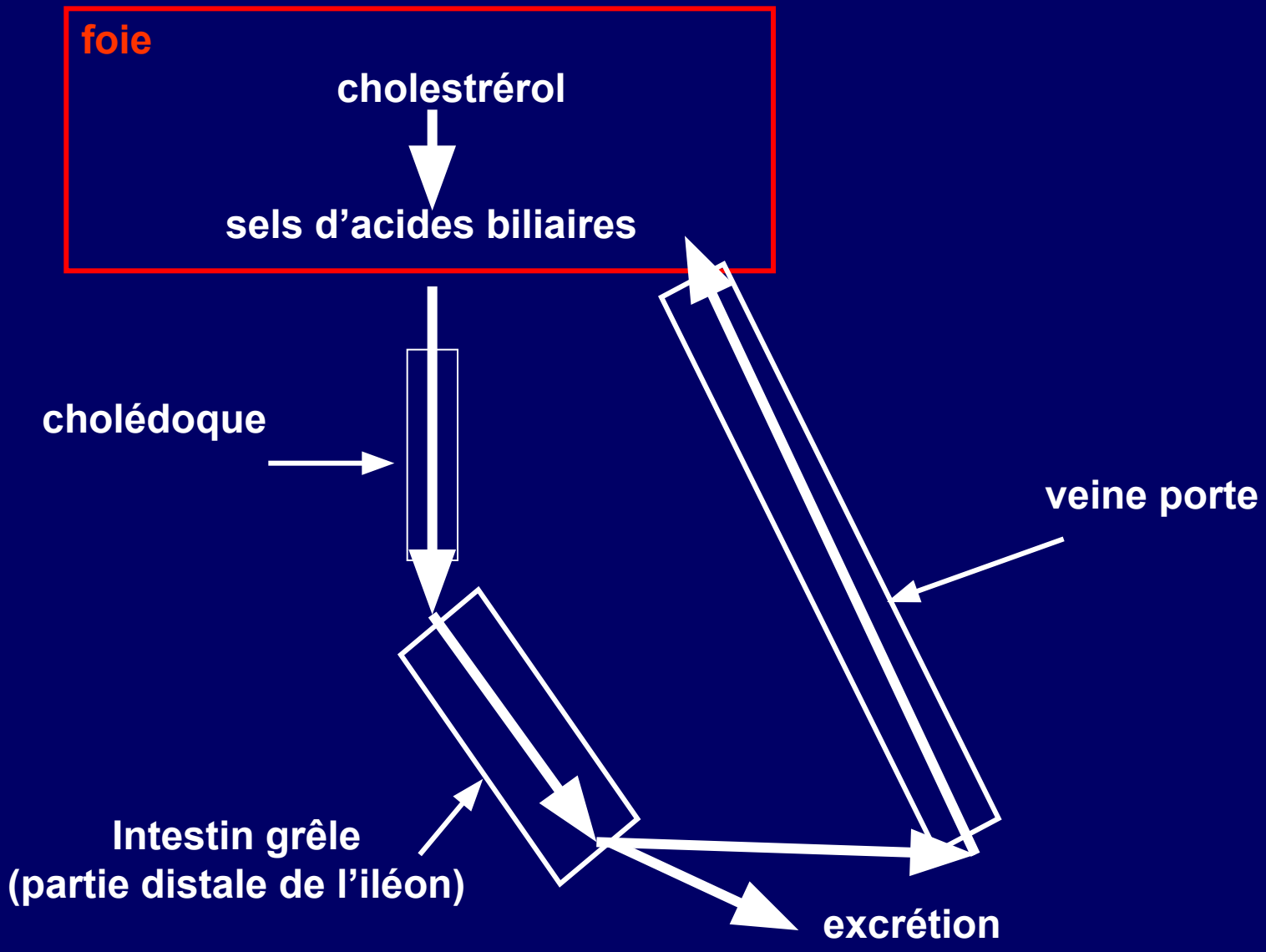
acide désoxycholique



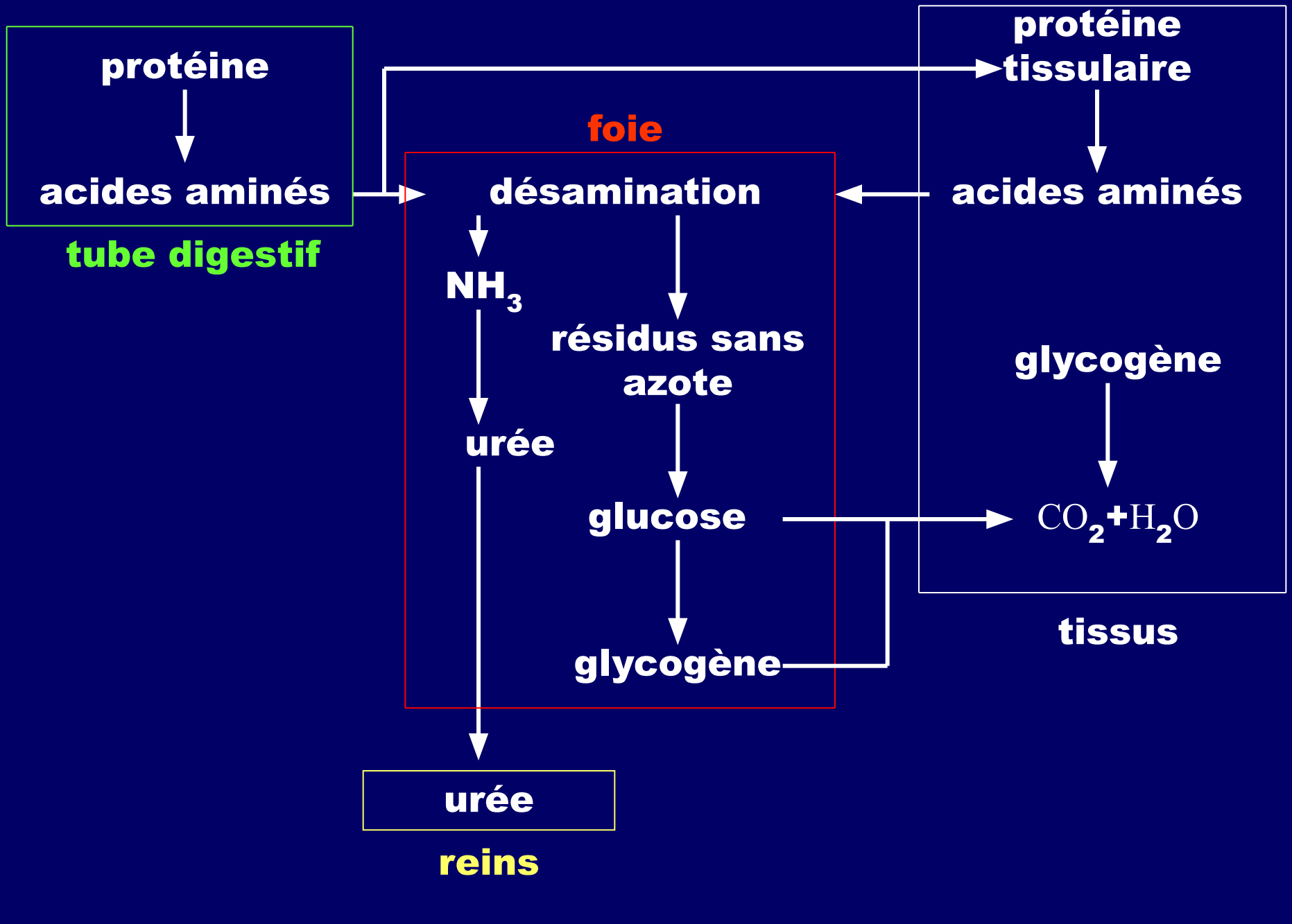
acide lithocholique

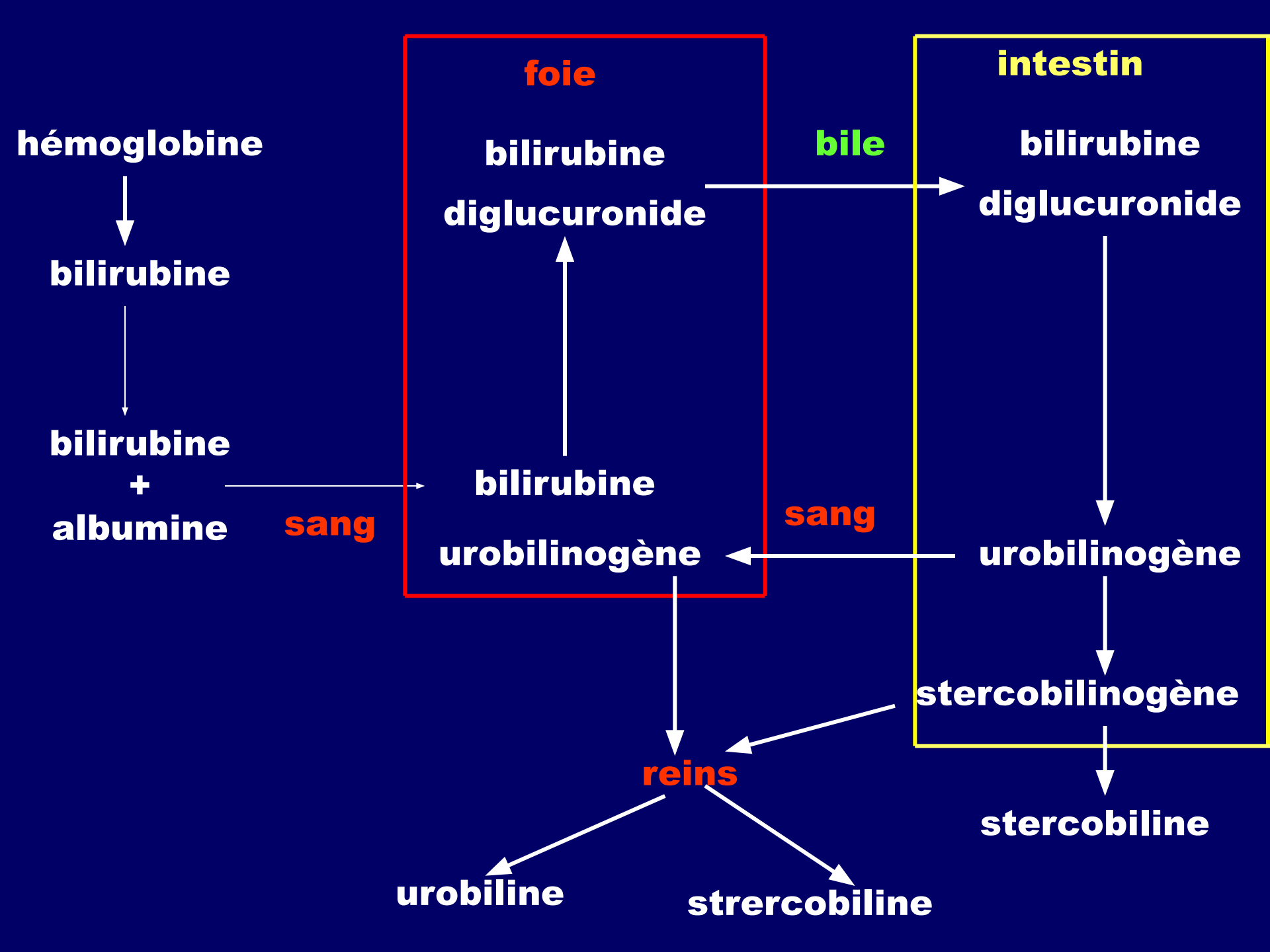


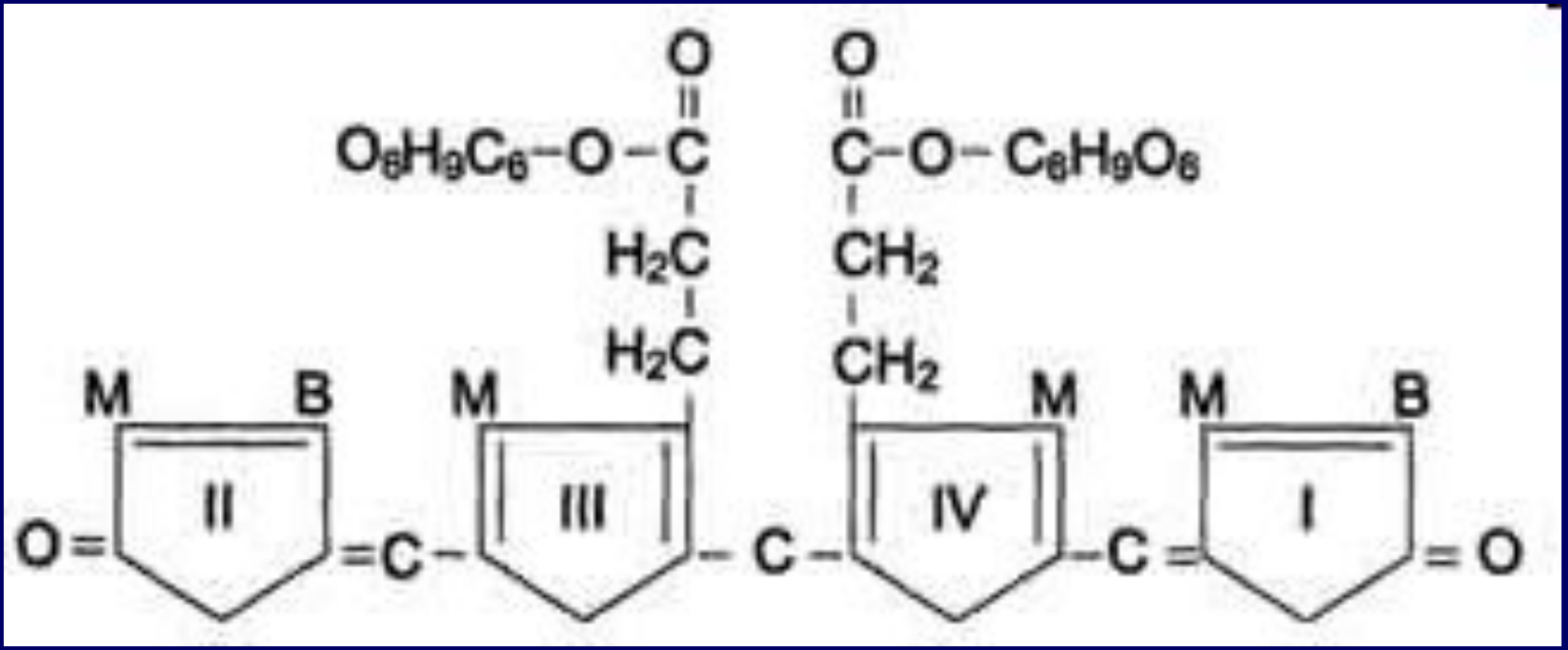
CIRCULATION ENTÉROHÉPATIQUE DES SELS D'ACIDES BILIAIRES



FOIE ET MÉTABOLISME DES PROTÉINES

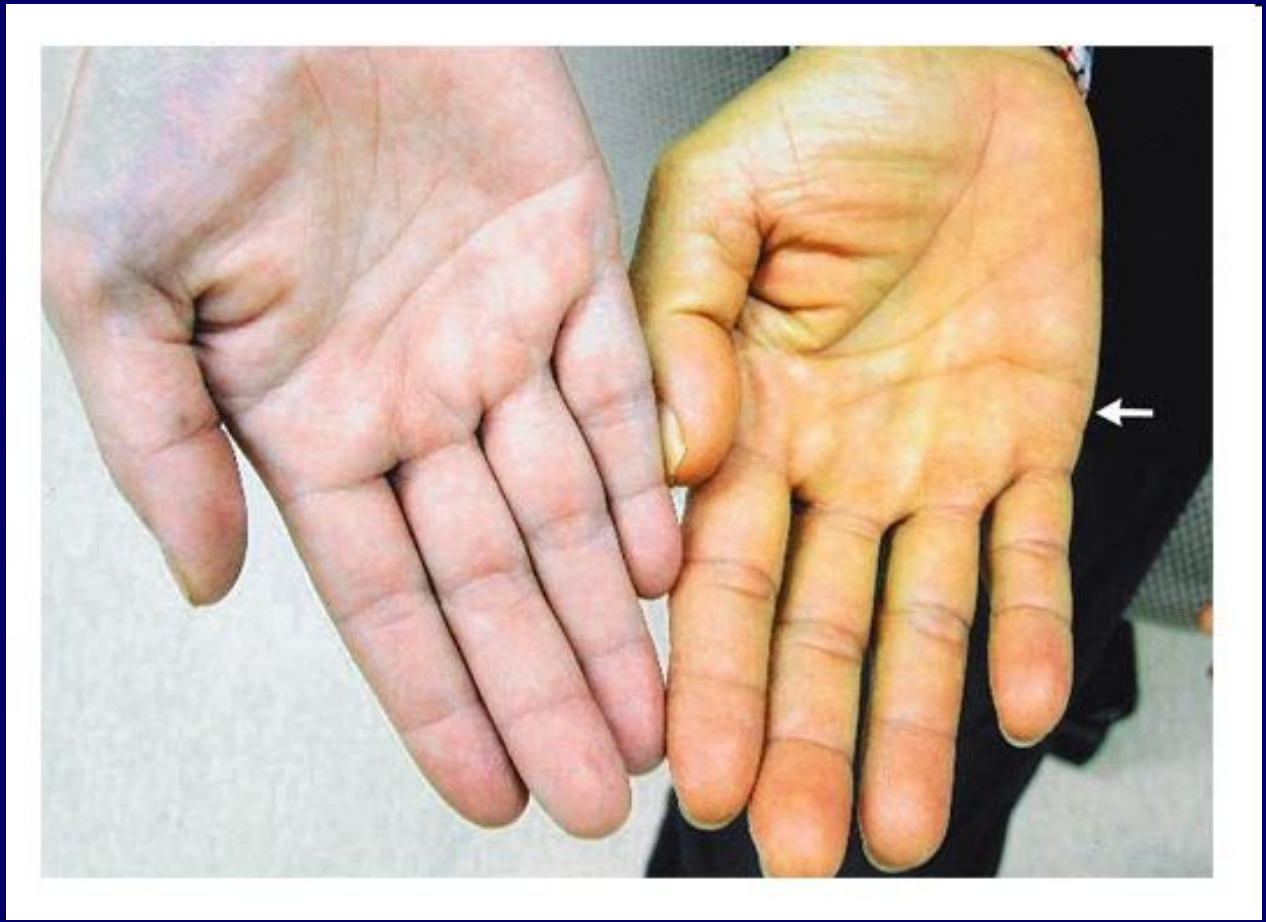



foie
intestin
hémoglobine
bilirubine
bilirubine
+
albumine
sang
bilirubine
diglucuronide
bile
bilirubine
diglucuronide
bilirubine
urobilinogène
sang
urobilinogène
stercobilinogène
reins
stercobiline
urobiline
strercobiline



BILIRUBINE CONJUGUÉE (DIRECTE)

TYPES D'ICTÈRES



DIAGNOSTIC DIFFÉRENTIEL

TYPE D'ICTÈRE	SANG			URINE		SELLES
	BILIRUBINE			BILIRUBINE DIRECTE	UROBILINOGÈNE	STERCOBILINOGÈNE
	TOTALE	INDIRECTE	DIRECTE			
HÉMOLYTIQUE	↑	↑	N ou ↑	0	+	↑
CYTOLYTIQUE	↑	N ou ↑	↑	↑	0	0
CHOLOSTATIQUE	↑	↑	↑	↑	+	↓

N – NORME; ↑ – AUGMENTATION; ↓ – DIMINUTION;

0 – IMPOSSIBLE DE TROUVER; + – POSSIBLE DE TROUVER

FONCTION DE DÉTOXIFICATION DU FOIE

I PHASE

hydroxylation

$$RH \rightarrow ROH$$

sulfoxydation

$$R\text{-}S\text{-}R' \rightarrow R\text{-}\underset{\underset{O}{\|}}{S}\text{-}R'$$

désamination oxydative

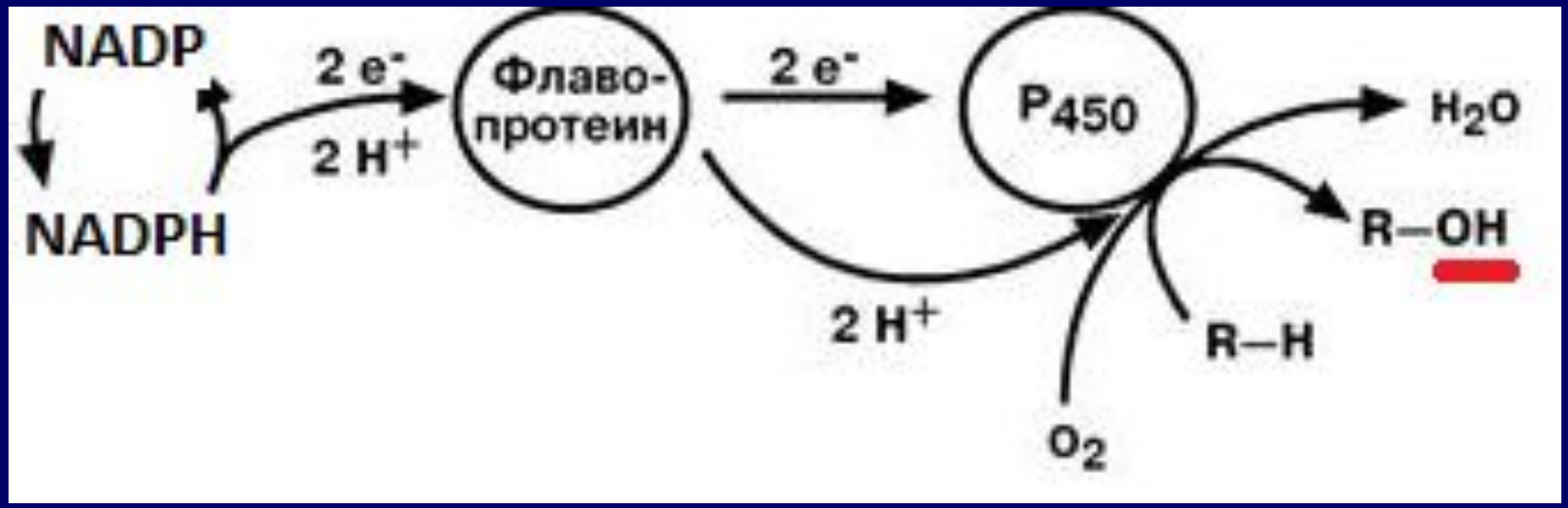
$$RNH_2 \rightarrow R{=}O + NH_3$$

désalkylation de N, O, S

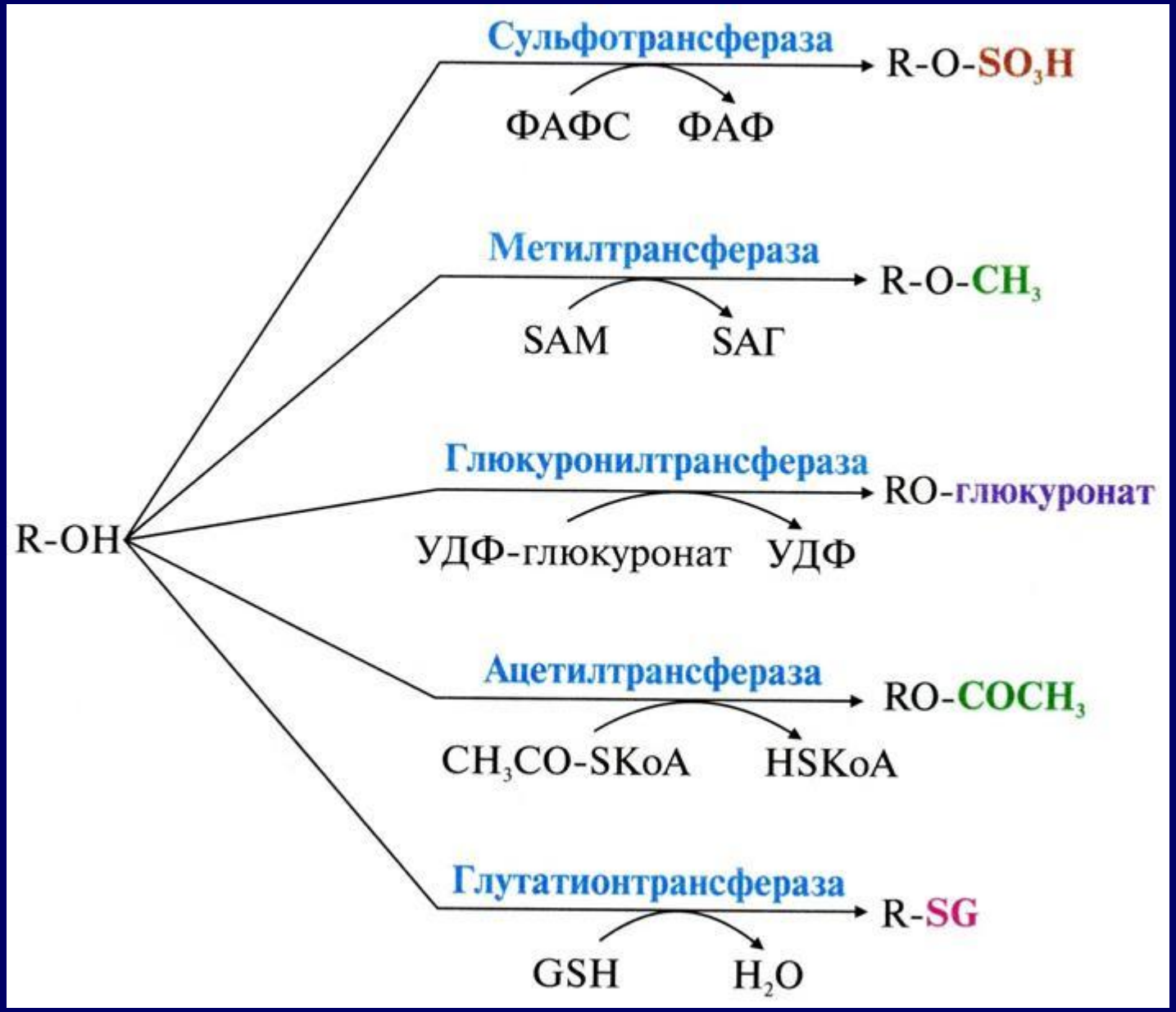
$$RNHCH_3 \rightarrow RNH_2 + H_2C{=}O$$
$$ROCH_3 \rightarrow ROH + H_2C{=}O$$
$$RSCH_3 \rightarrow RSH + H_2C{=}O$$

époxydation

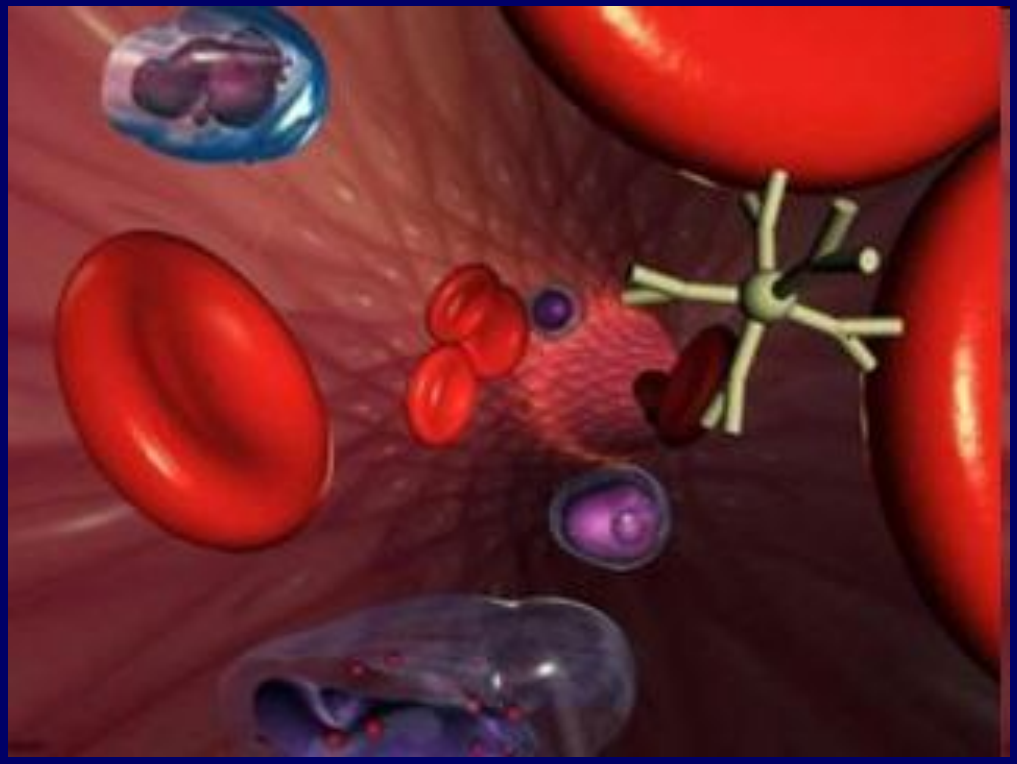
$$R\text{-}CH{=}CH\text{-}R' \rightarrow R\text{-}\underset{\diagdown\,O\,\diagup}{CH\text{-}CH}\text{-}R'$$

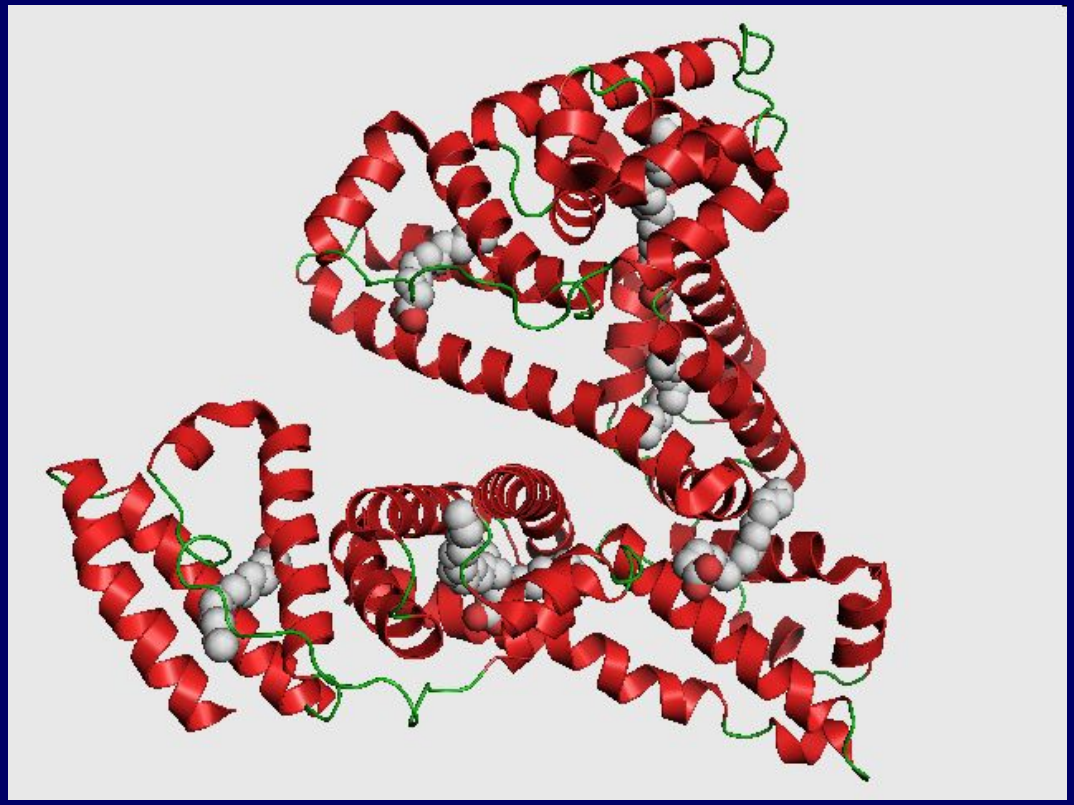

NADP
NADPH
2 e⁻
2 H⁺
Флаво-
протеин
2 e⁻
P450
H2O
R–OH
2 H⁺
R–H
O2

II PHASE (CONJUGAISON)

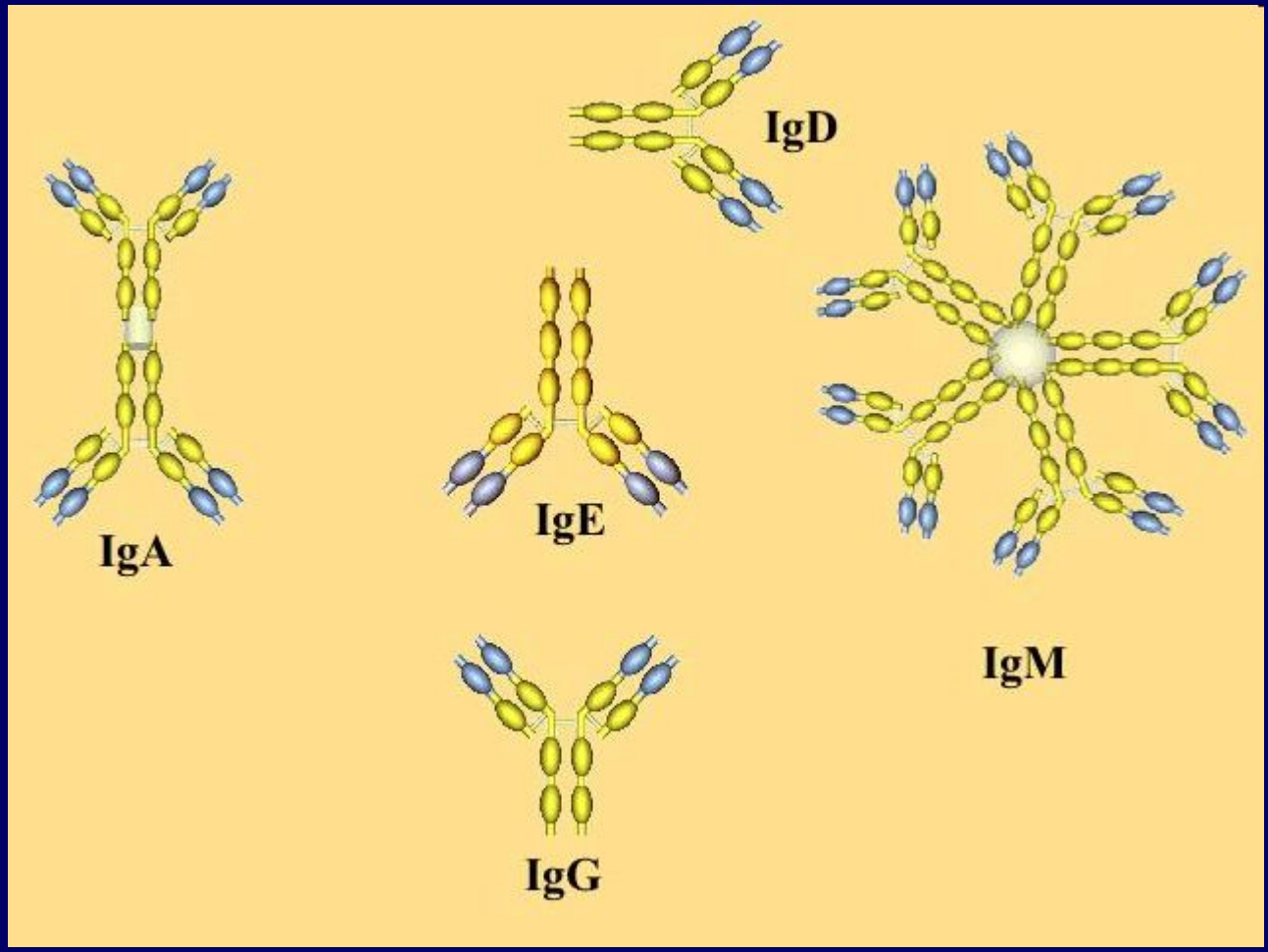


BIOCHIMIE DU SANG

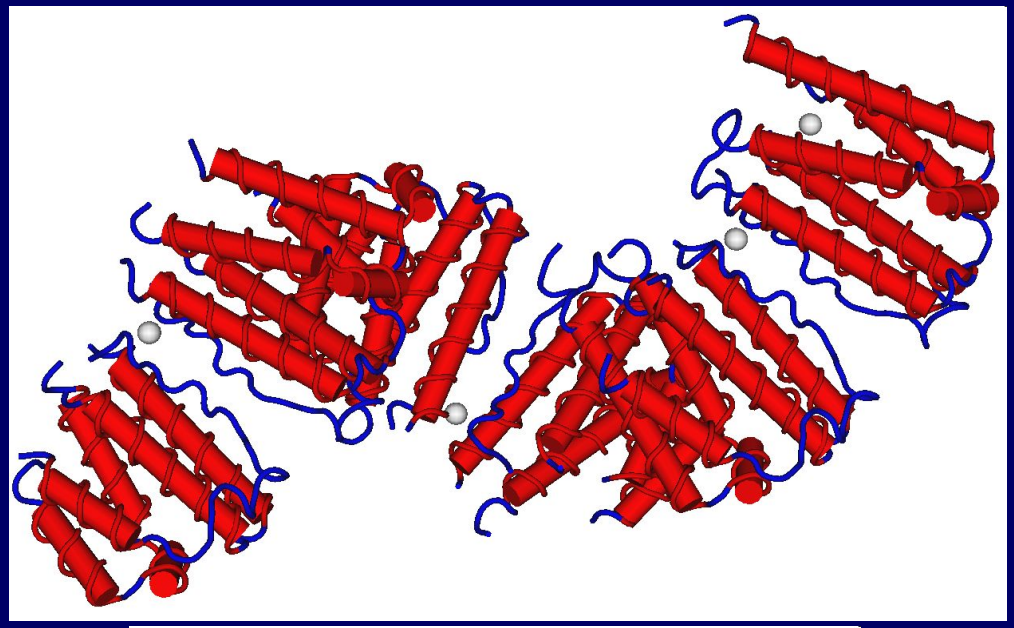




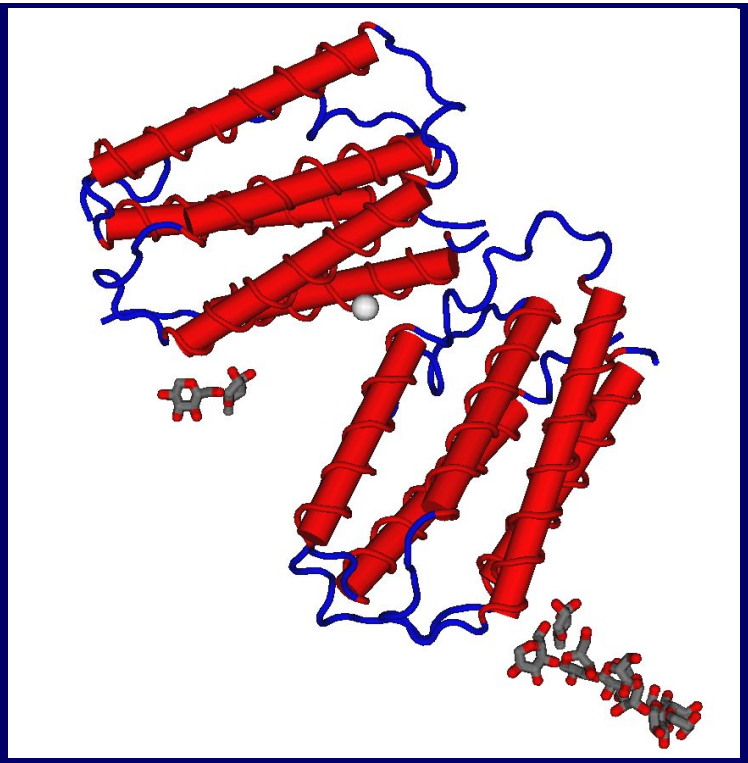
ALBUMINE



IMMUNOGLOBULINES

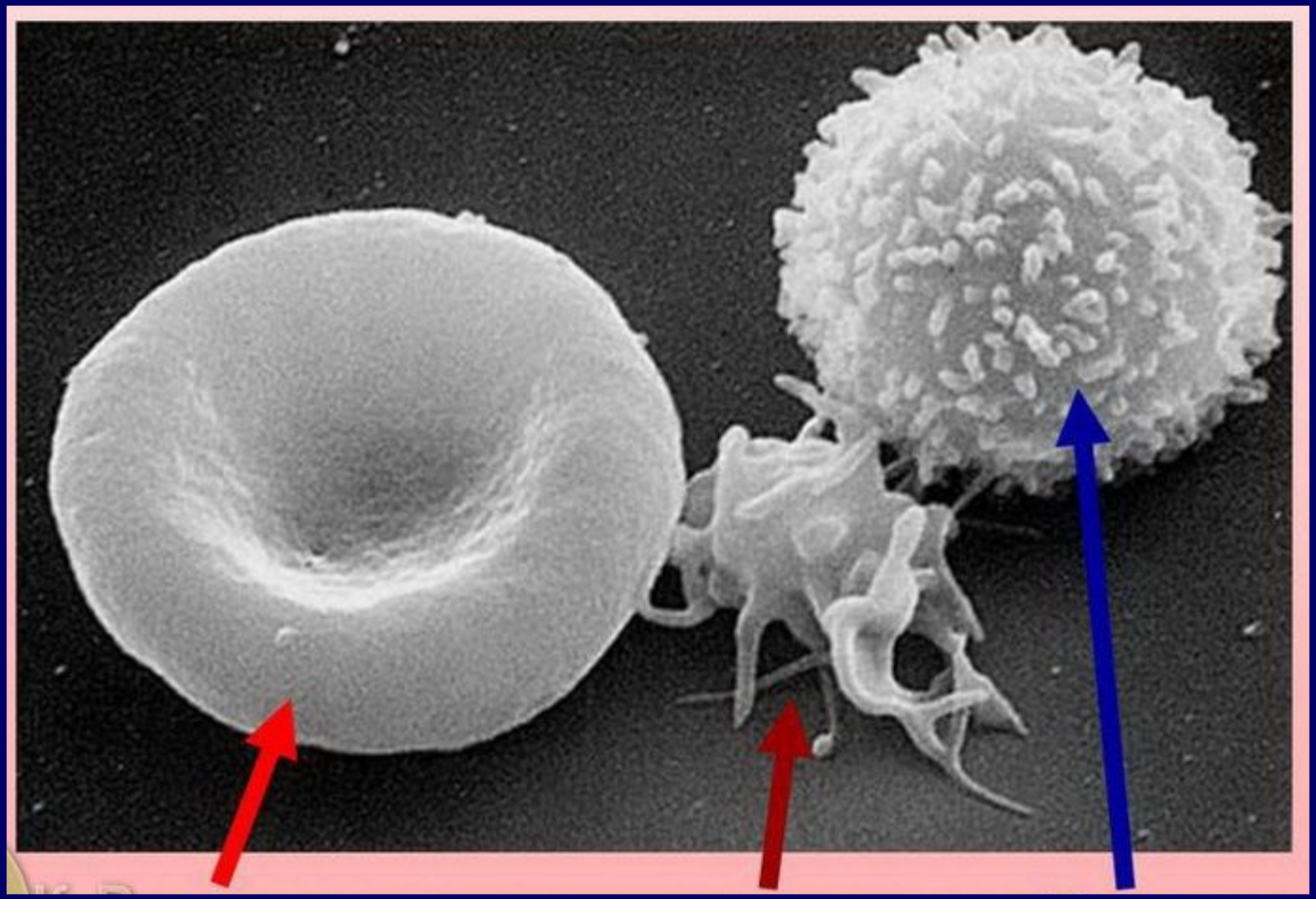


INTERFÉRON α



INTERFÉRON β

CELLULES SANGUINES



ÉRYTHROCYTE

THROMBOCYTE

LEUCOCYTE

SYSTÈMES TAMPONS DU SANG

- **BICARBONATE:**

DONNEUR DE PROTON — **ACCEPTEUR DE PROTON**

- **PHOSPHATE:**

DONNEUR DE PROTON — **ACCEPTEUR DE PROTON**

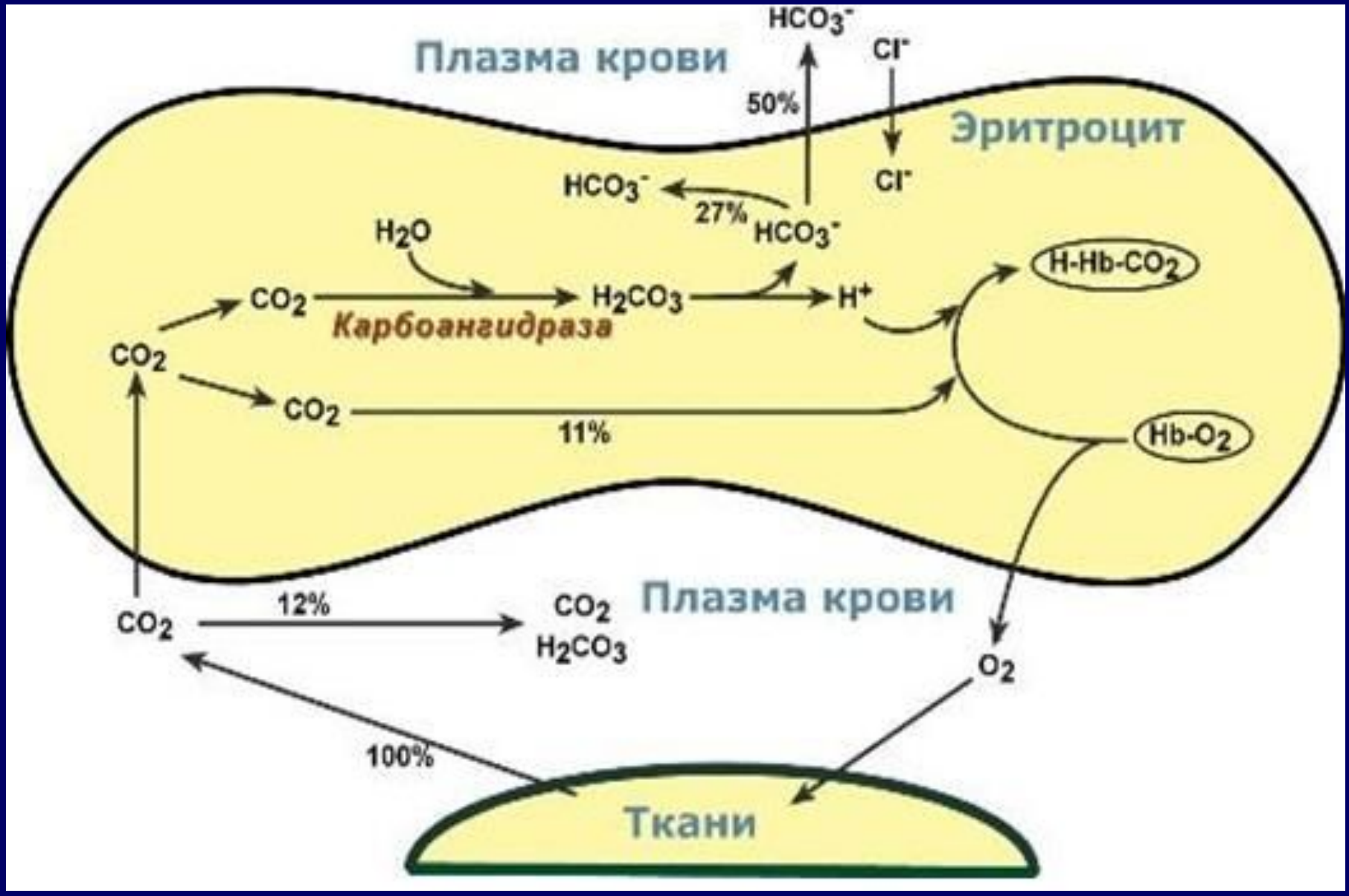
- **PROTÉIQUE;**

- **HÉMOGLOBINE:**

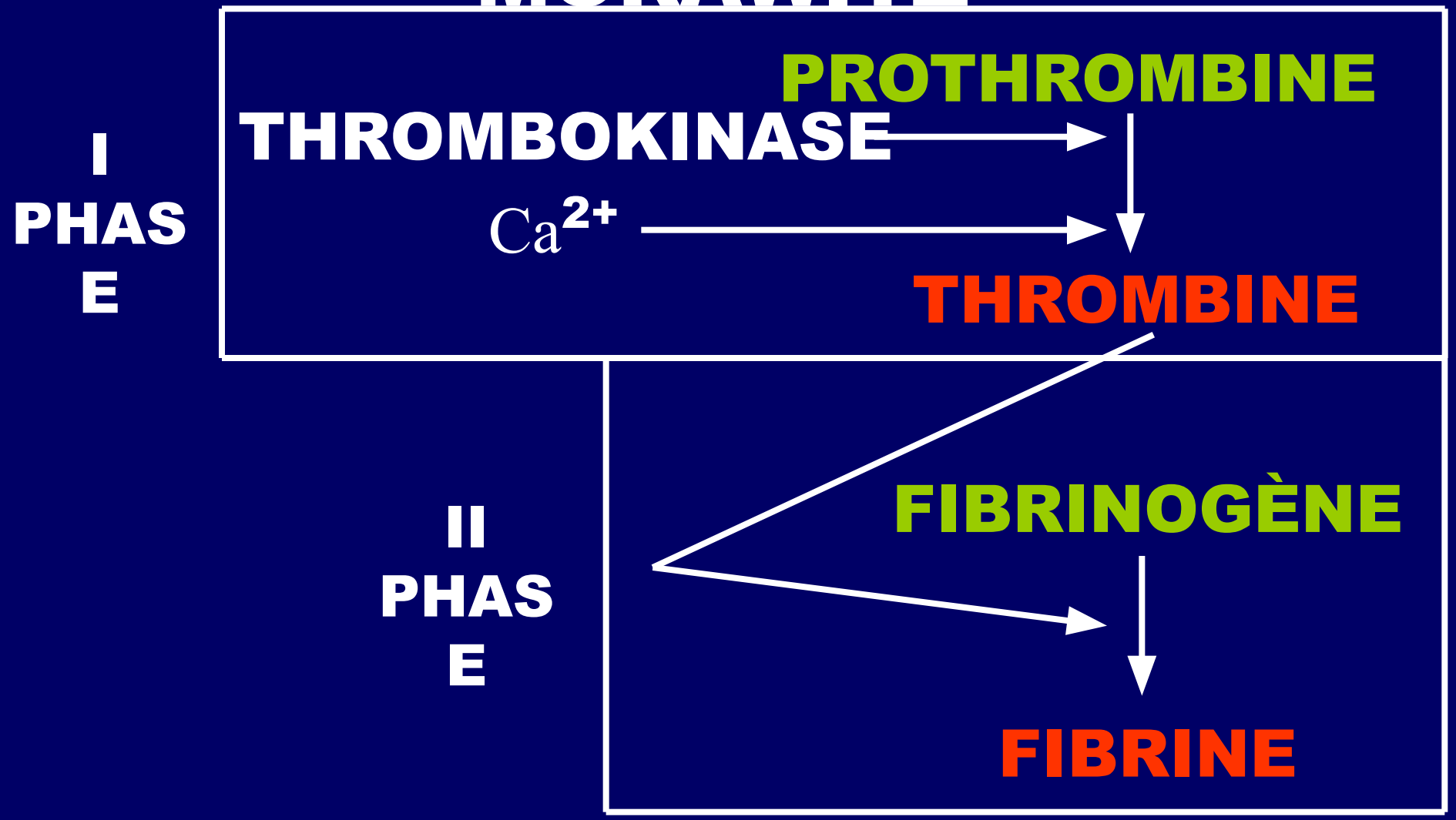
$$HHb + KHCO_3 \rightleftharpoons H_2CO_3 + KHb$$

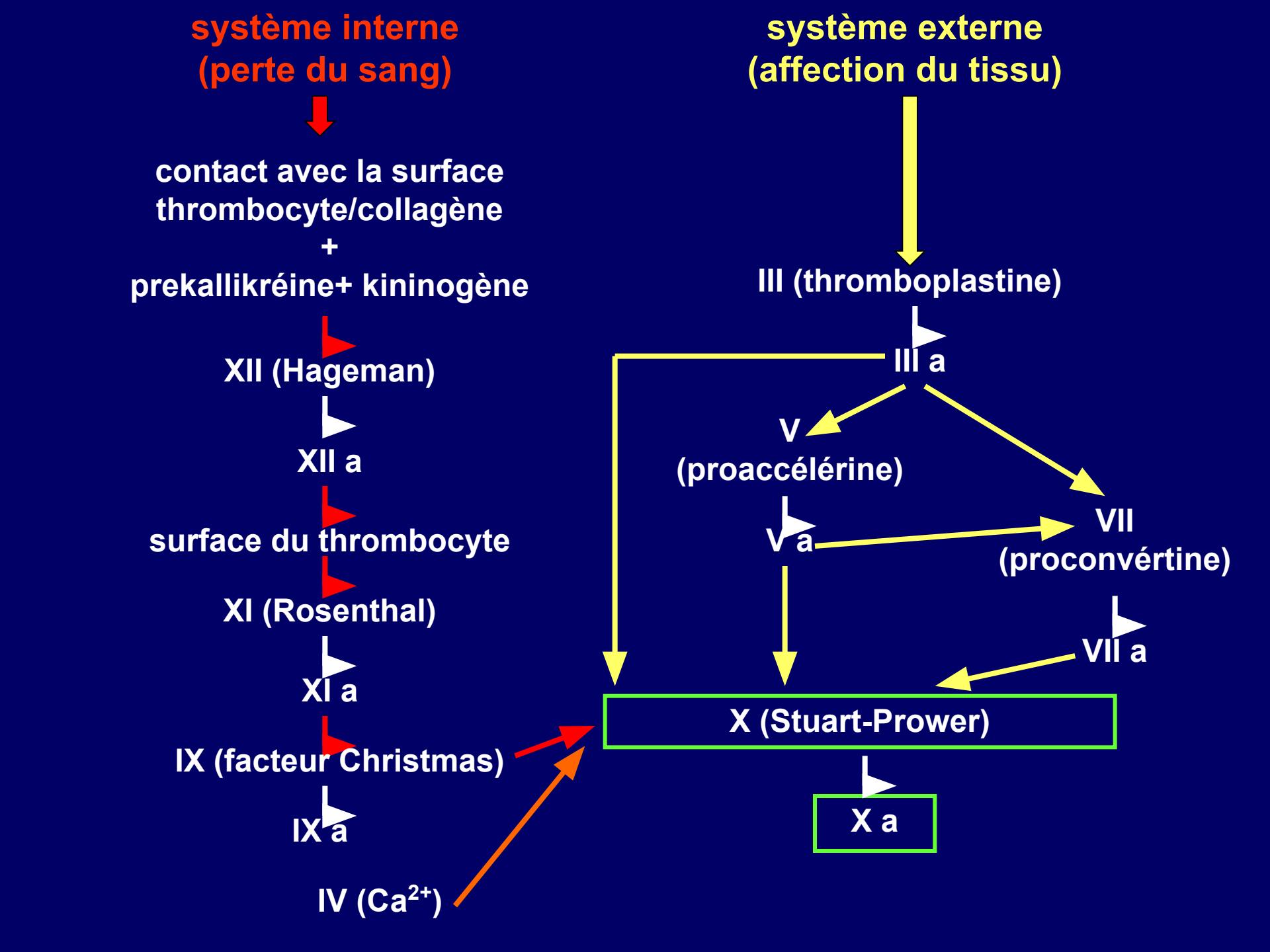
DONNEUR DE PROTON — **ACCEPTEUR DE PROTON**

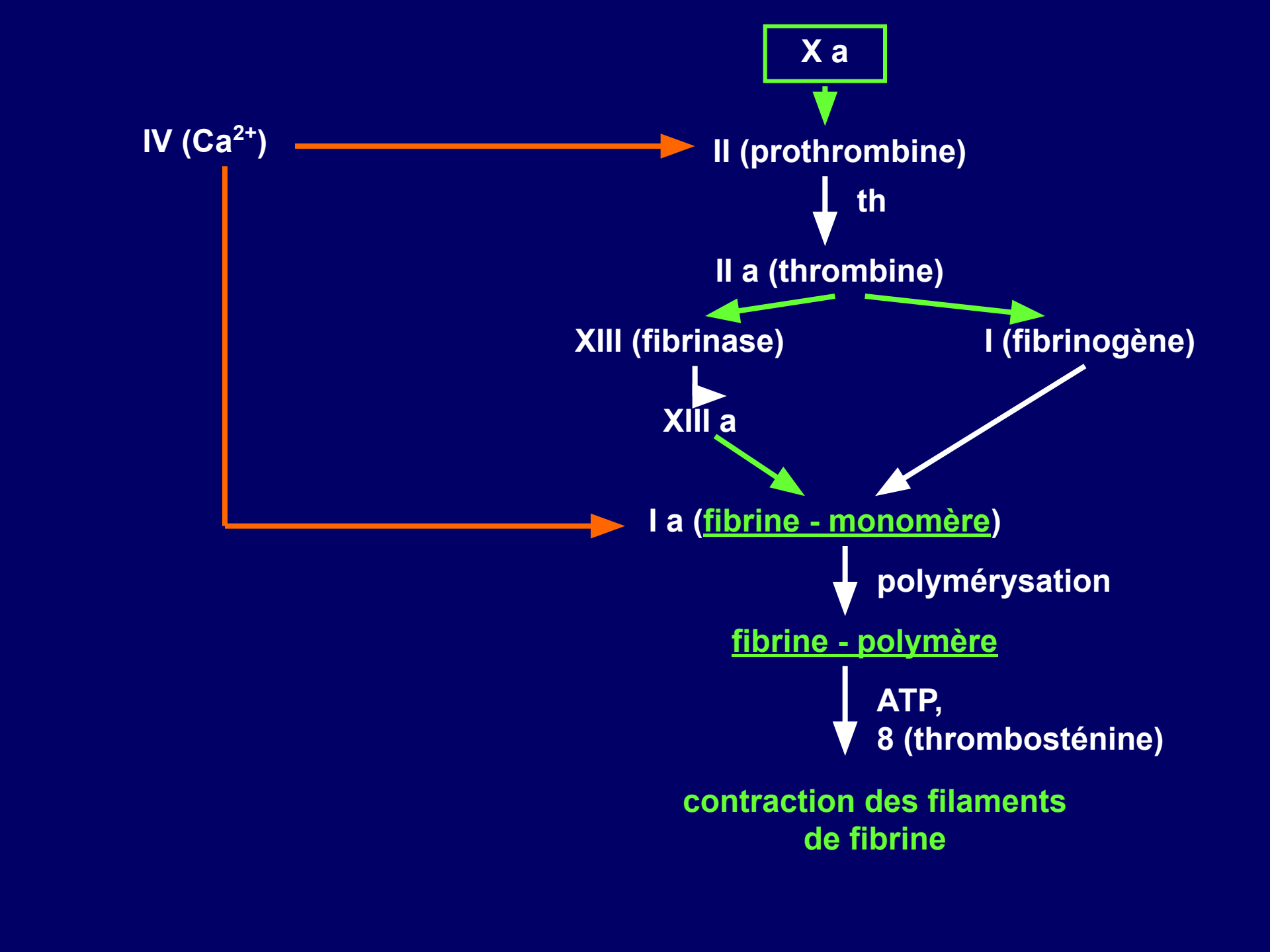
FONCTION RESPIRATOIRE DU SANG



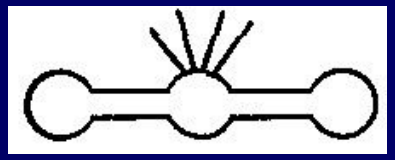
THÉORIE DE SCHMIDT-MORAWITZ




système interne
(perte du sang)
contact avec la surface
thrombocyte/collagène
+
prekallikréine+ kininogène
XII (Hageman)
XII a
surface du thrombocyte
XI (Rosenthal)
XI a
IX (facteur Christmas)
IX a
IV (Ca2+)
système externe
(affection du tissu)
III (thromboplastine)
III a
V
(proaccélérine)
V a
VII
(proconvértine)
VII a
X (Stuart-Prower)
X a


X a
IV (Ca^{2+})
II (prothrombine)
th
II a (thrombine)
XIII (fibrinase)
I (fibrinogène)
XIII a
I a (fibrine - monomère)
polymérysation
fibrine - polymère
ATP,
8 (thrombosténine)
contraction des filaments
de fibrine

FORMATION DE THROMBUS FIBRINEUX



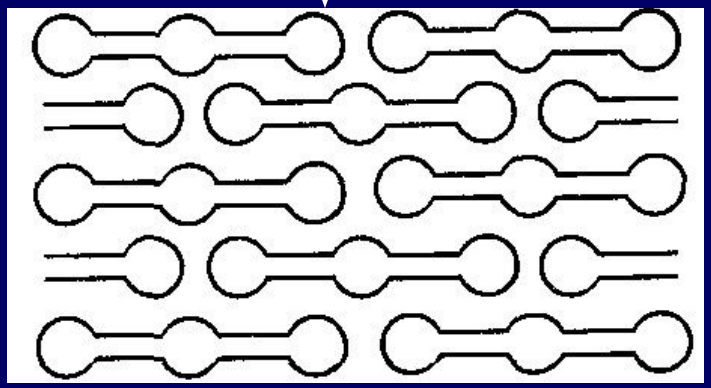
fibrinogène

thrombine

H_2O

fibrinopeptide

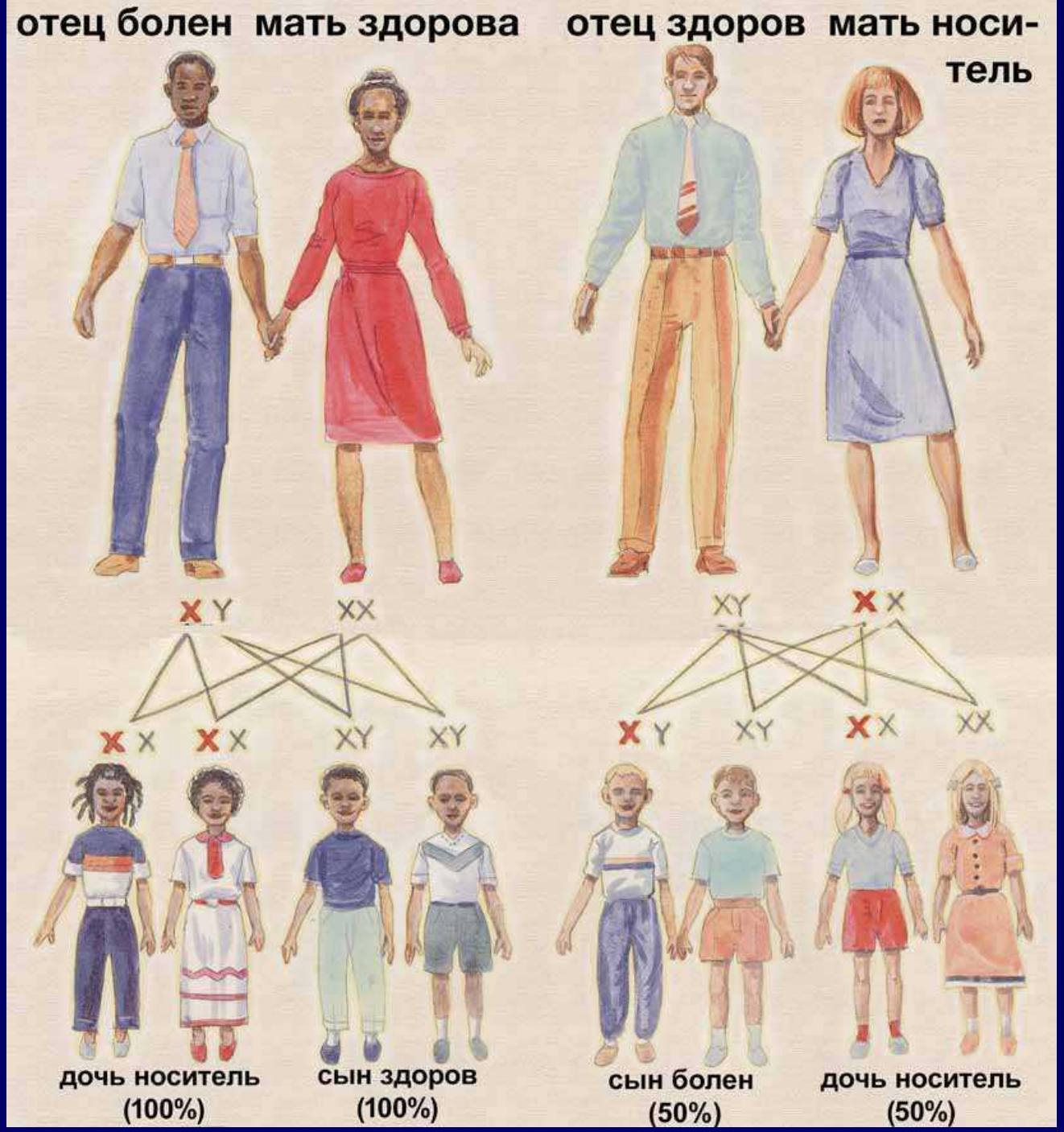
monomère de fibrine



gel de fibrine

Hémophilie **est une maladie héréditaire caractérisée par des hémorragies récurrentes et difficiles à arrêter à cause du manque de facteurs de coagulation:**

hémophilie A – facteur VIII;
hémophilie B – facteur IX;
hémophilie C – facteur XI.


отец болен
мать здорова
отец здоров
мать носи-
тель
X Y
XX
X X
X X
XY
XY
XY
X X
X Y
XY
X X
XX
дочь носитель
(100%)
сын здоров
(100%)
сын болен
(50%)
дочь носитель
(50%)

SYSTÈME ANTICOAGULANT:

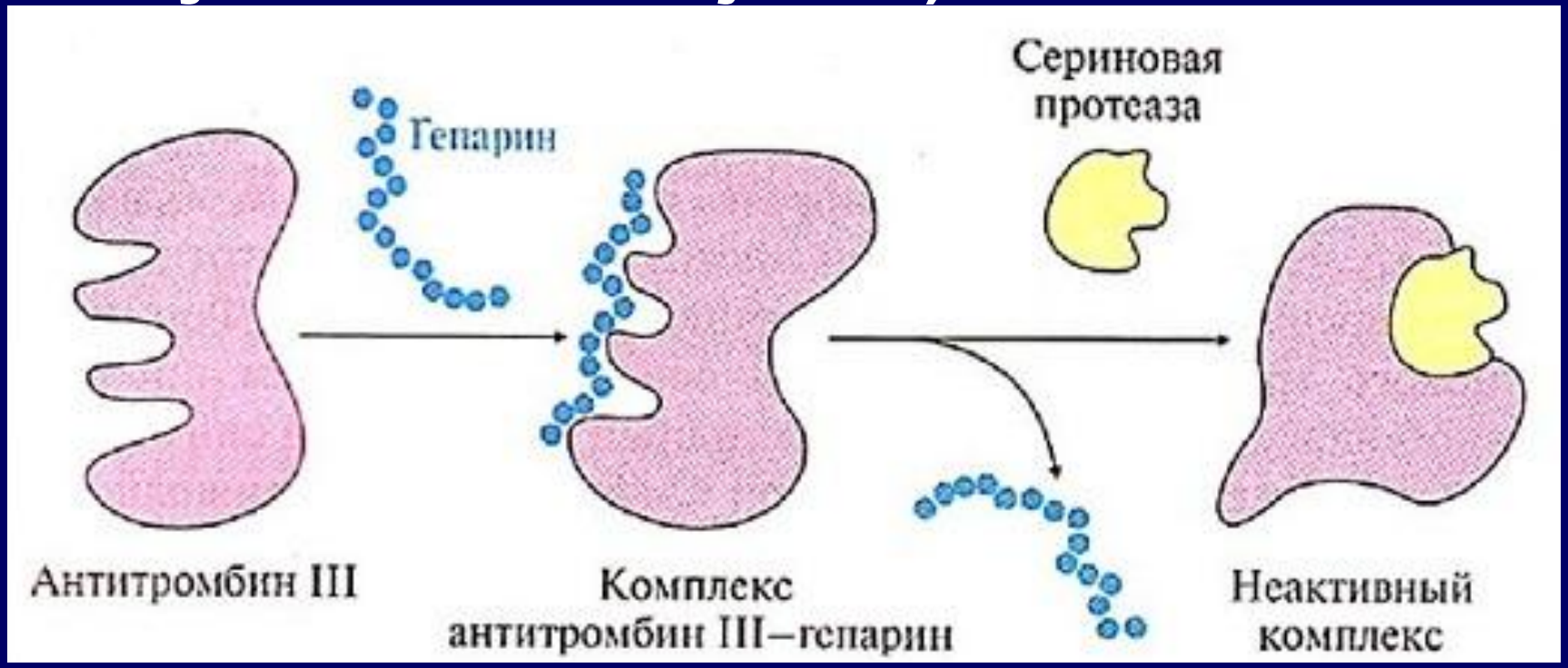
- MÉCANISME «ANTITHROMBINE/ HÉPARINE»;
- FIBRINOLYSE;
- VOIE ANTICOAGULANTE

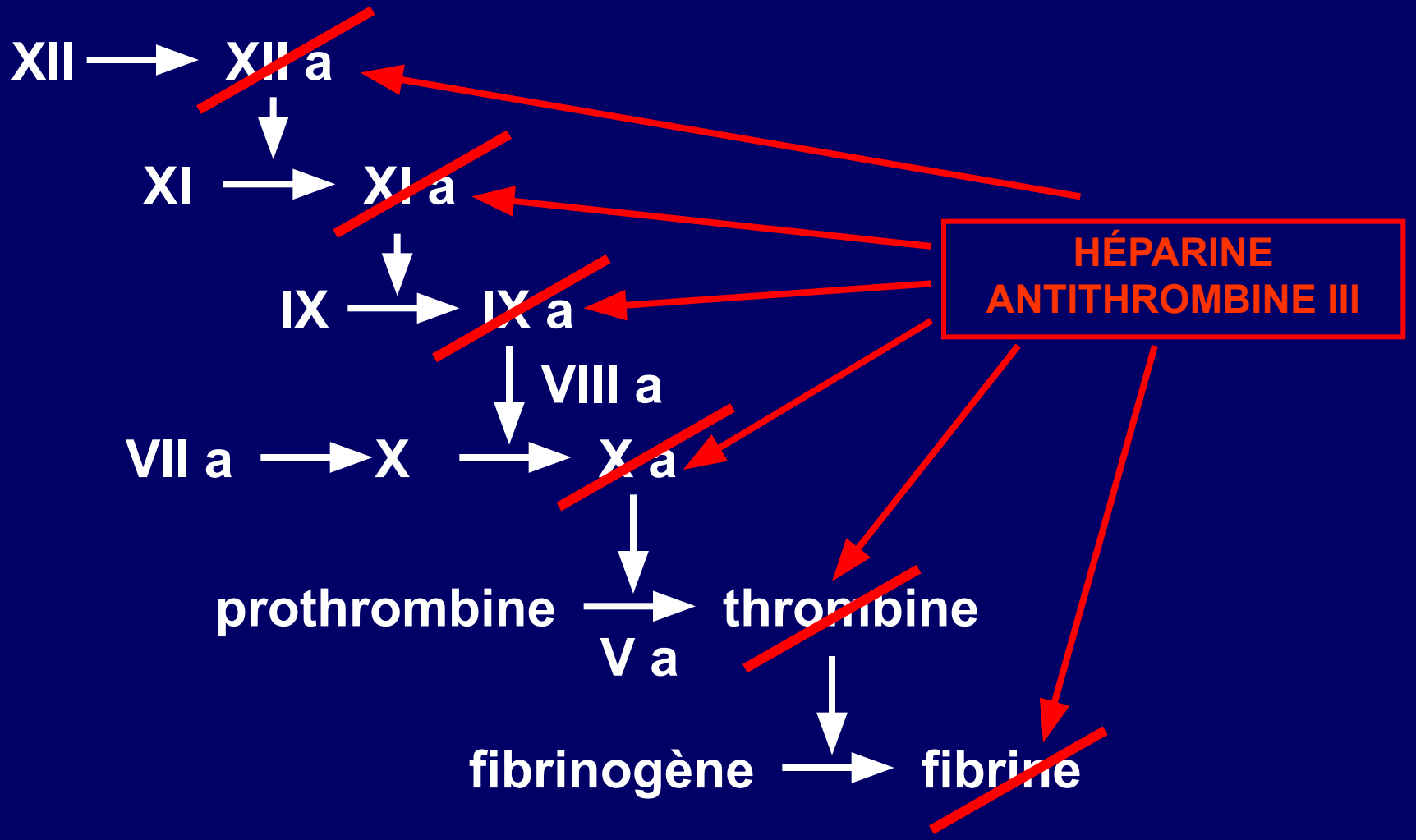
MÉCANISME «ANTITHROMBINE/ HÉPARINE»

<u>ATITHROMBINE III</u> :

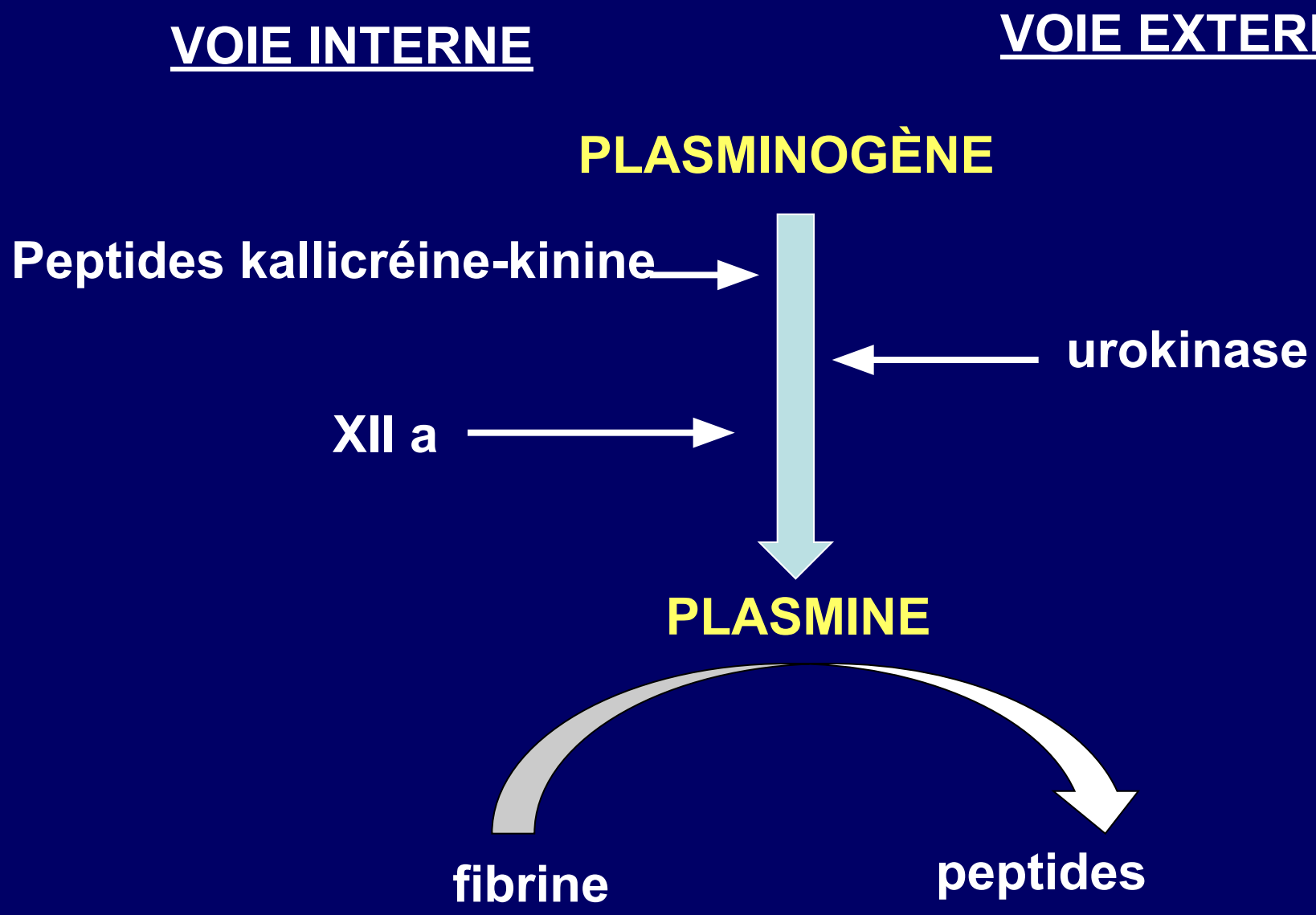
- protéine du plasma sanguin, qui inactive les protéases de sérine: thrombine, IX a, Xa, XII a, plasmine, kallicréine;

- activateur de l'antithrombine – héparine (mastocytes du tissu conjonctif).




XII
XII a
XI
XI a
IX
IX a
VIII a
VII a
X
X a
V a
prothrombine
thrombine
fibrinogène
fibrine
HÉPARINE
ANTITHROMBINE III

FIBRINOLYSE



VOIE ANTICOAGULANTE