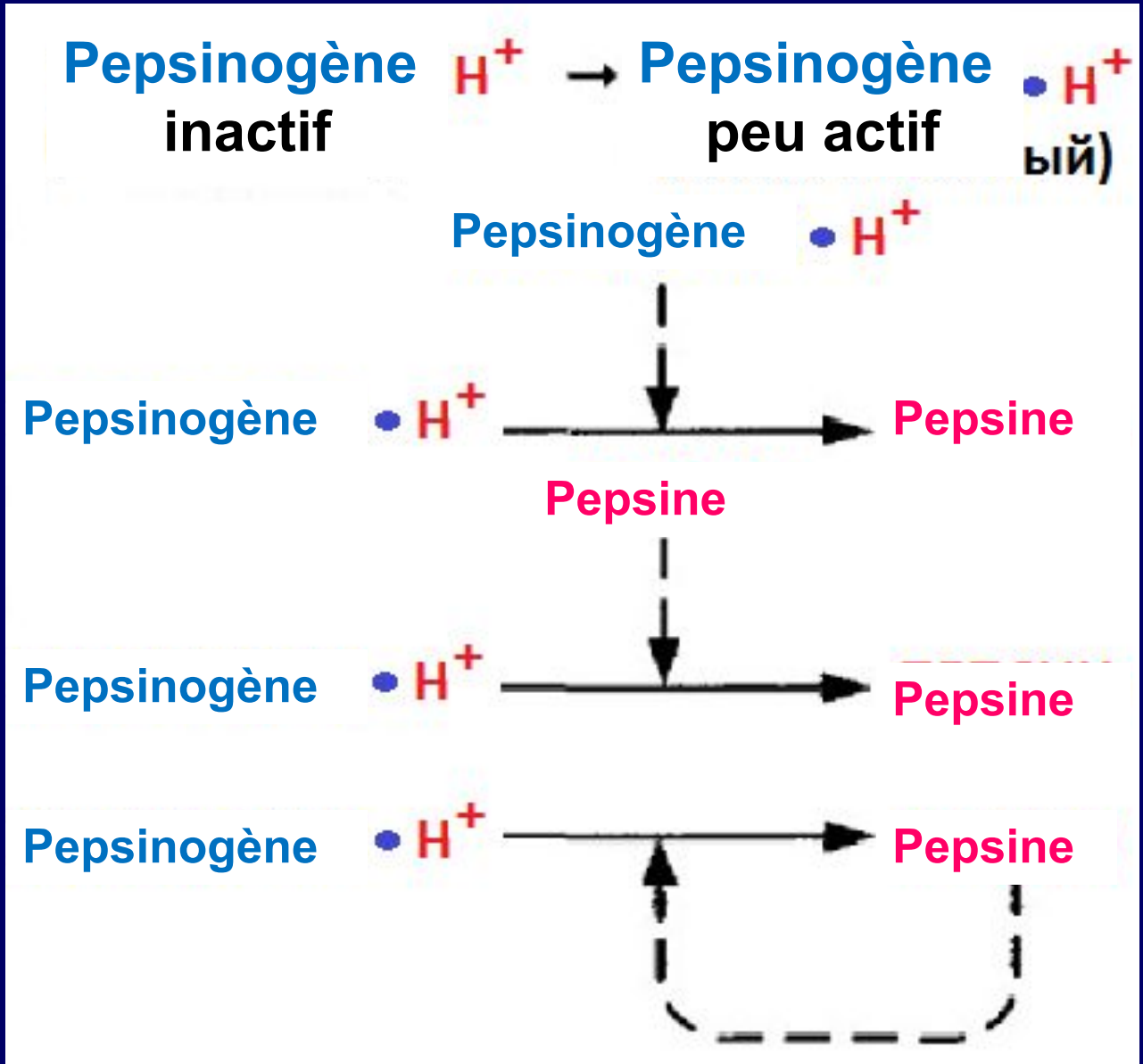
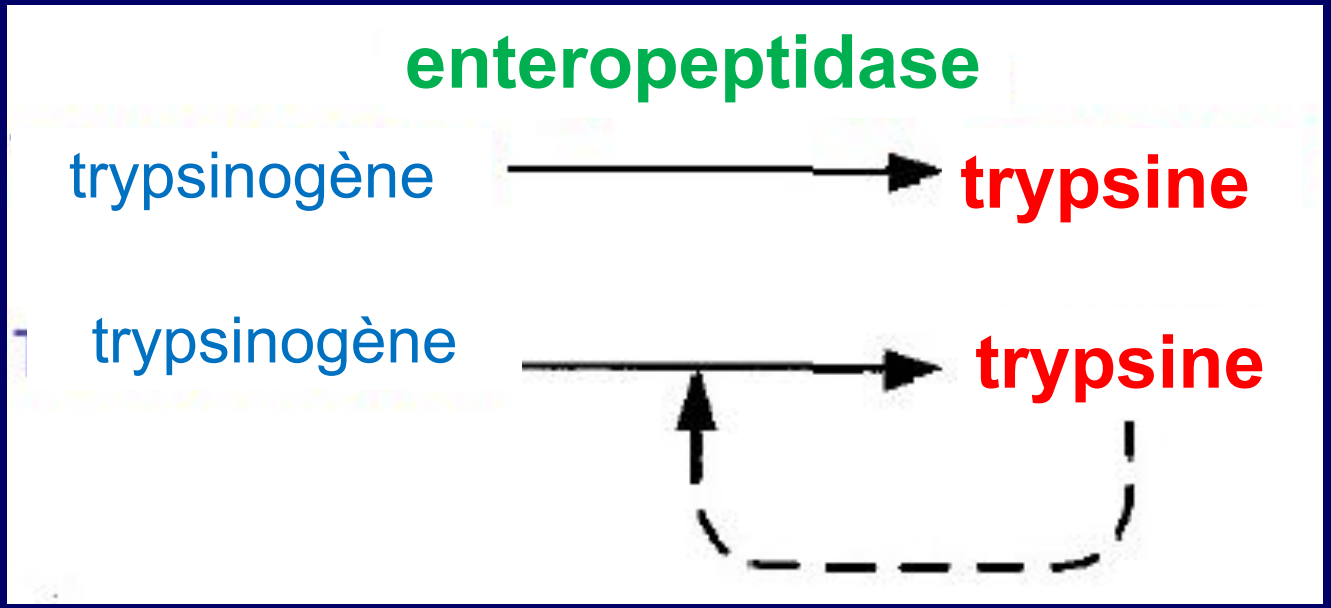
MÉTABOLISME DES PROTÉINES

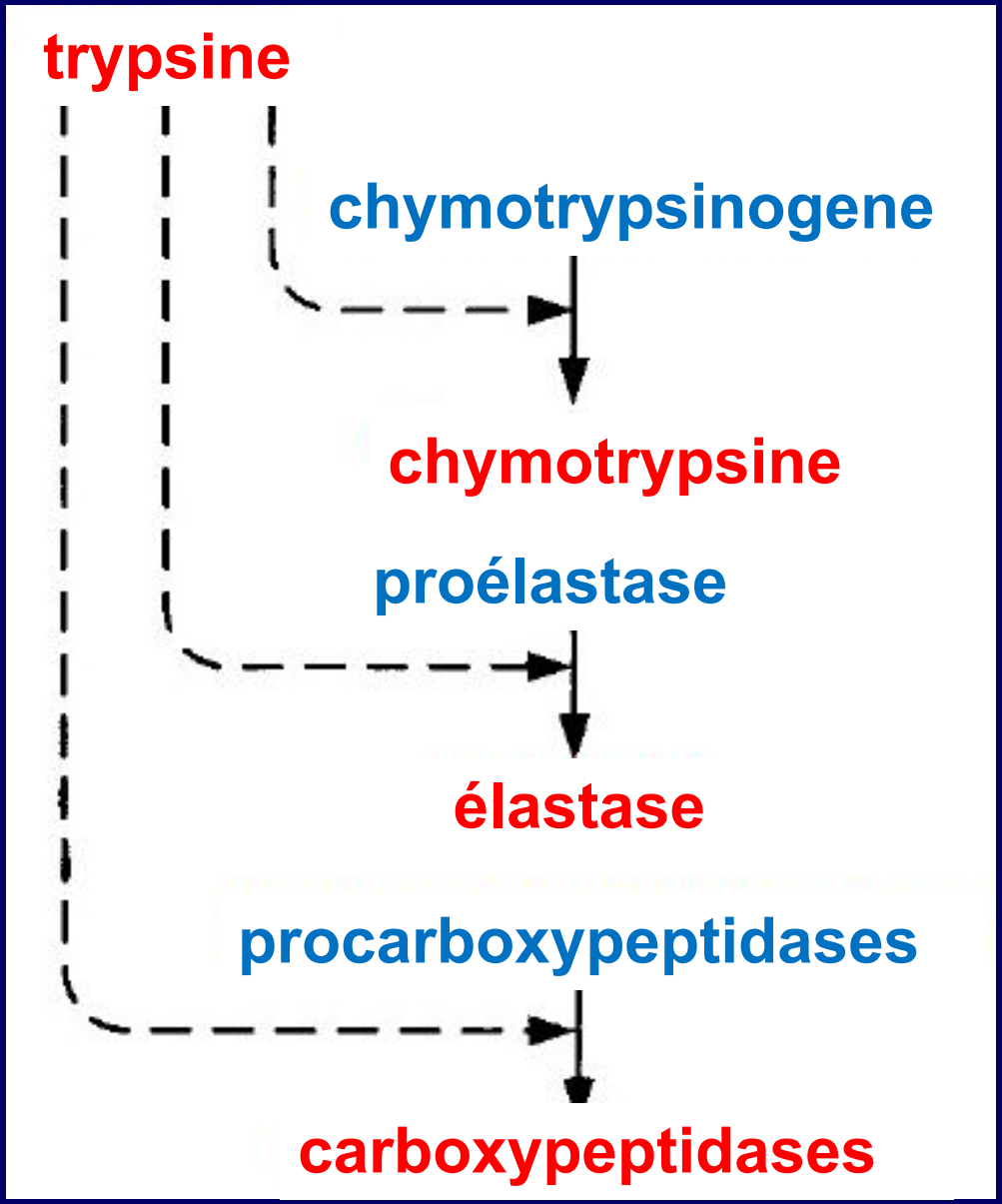
Activation de la pepsine



Activation de la trypsine



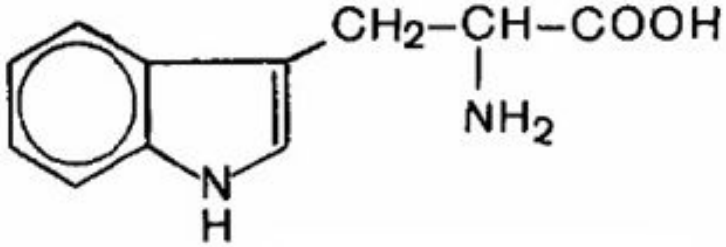
Activation des proteases de l'intestin



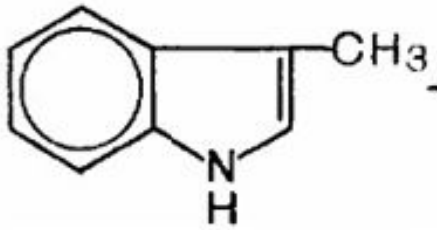
Sélectivité de l`action des peptidases

Enzyme	Liaisons peptidiques rompues
Pepsine	Phénylalanine, tyrosine, acide glutamique
Trypsine	Lysine, arginine
Chymotrypsine	Tryptophane, phénylalanine, tyrosine
Élastase	Glycine, alanine, sérine
Carboxypeptidases A	Tryptophane, phénylalanine, tyrosine
Carboxypeptidases B	Lysine, arginine

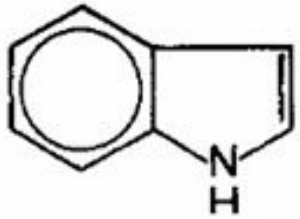
La putréfaction des protéines dans l'intestin



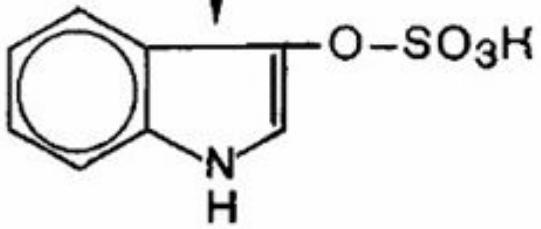
tryptophane



scatole



indole

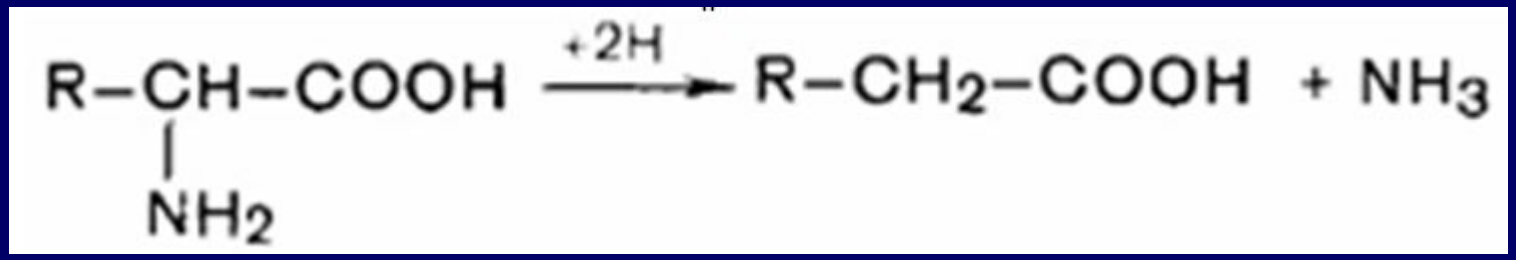


indican animal

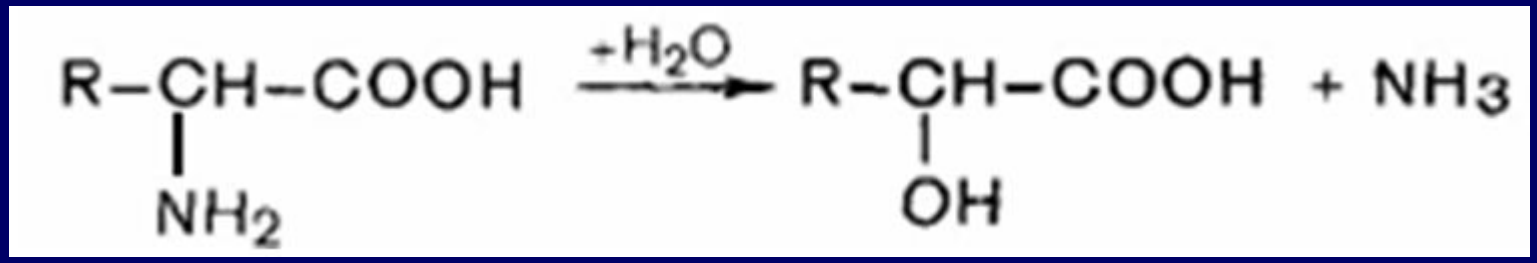
Les réactions des acides aminés

1. Désamination

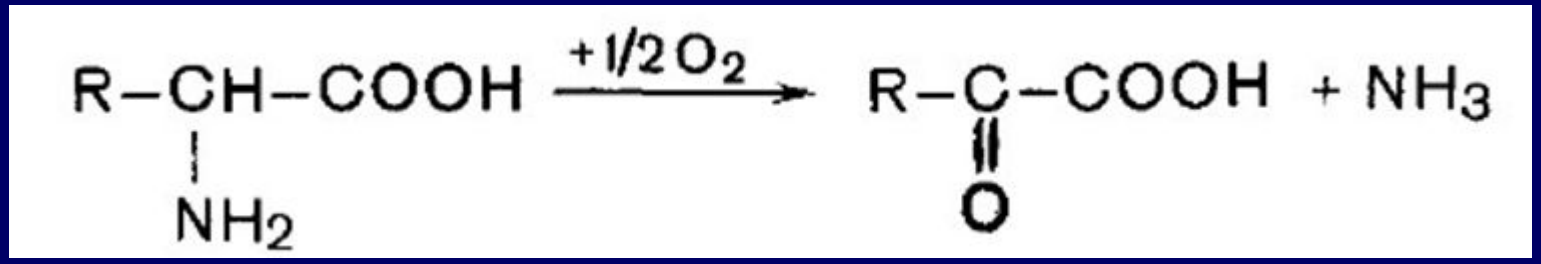
- réductrice :



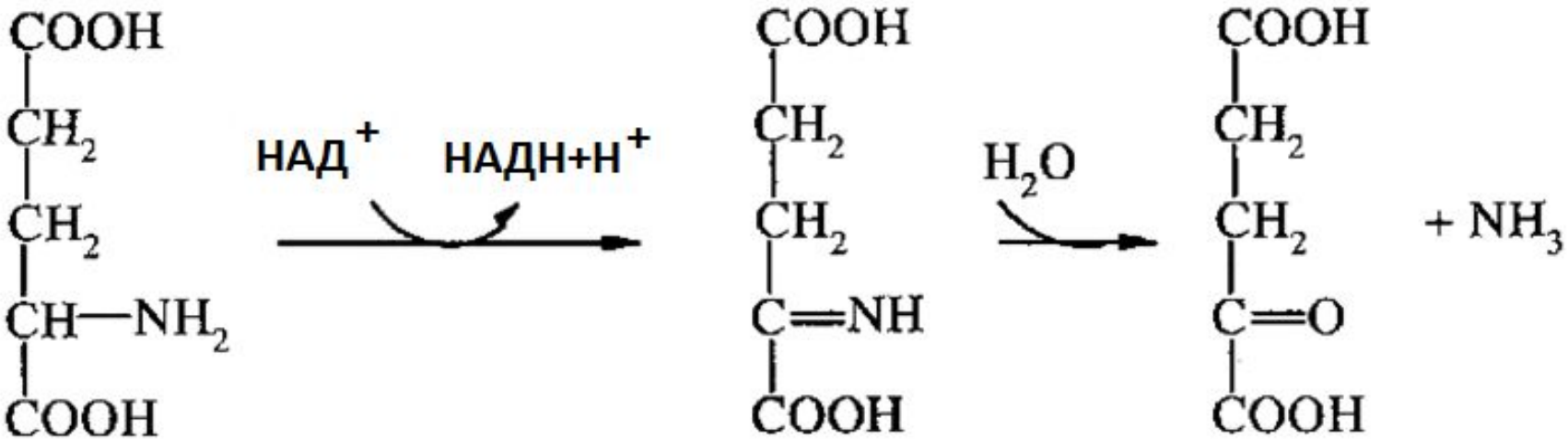
- hydrolytique:



- oxydative:



La désamination de l'acide glutamique

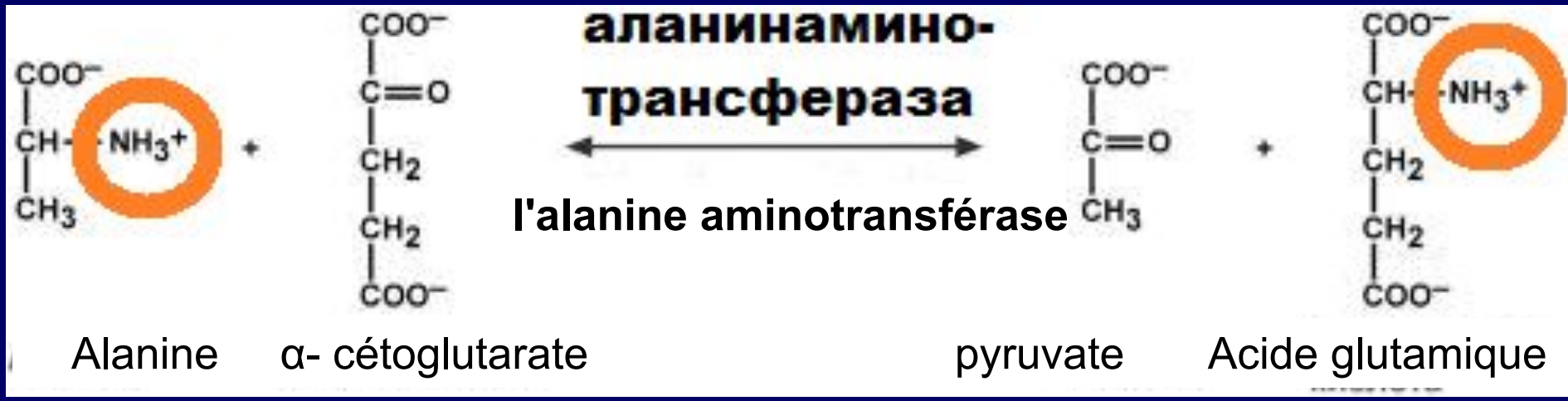


Acide glutamique

acide α-aminoglutarique

acide α-cétoglutarique

2. Transamination



Alanine α- cétoglutarate pyruvate Acide glutamique

Transaminases

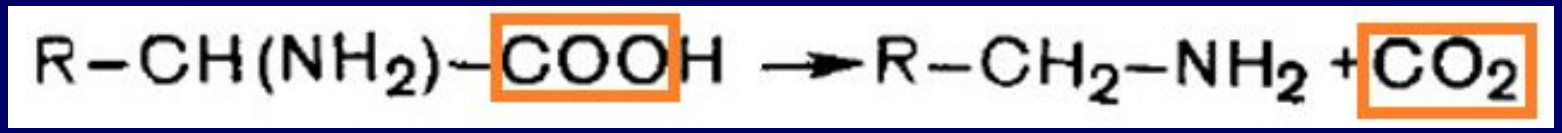
-Aspartate aminotransférase :

aspartate + α-cétoglutarate → →
oxaloacétate + glutamate

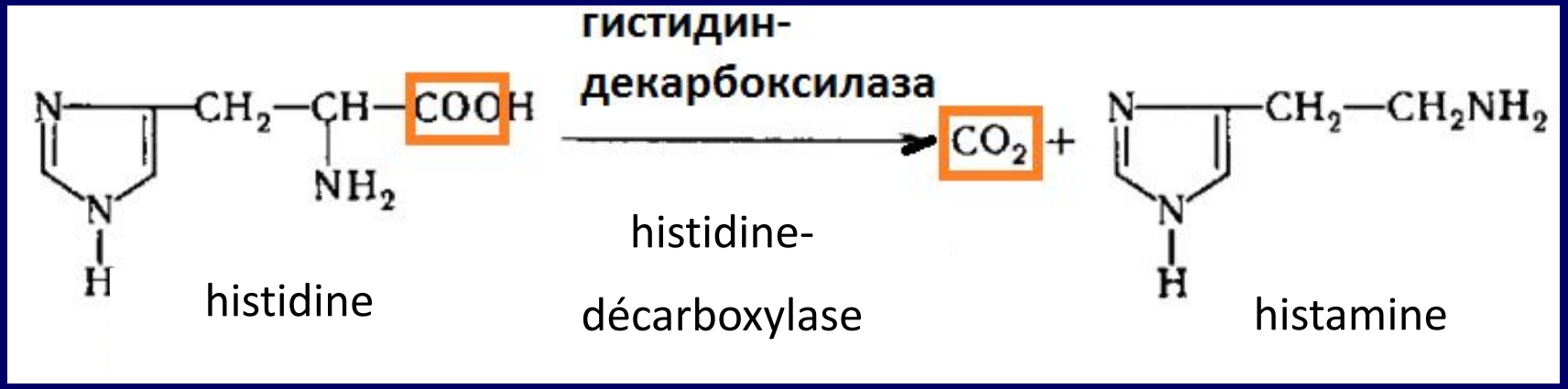
- Alanine aminotransférase:

alanine + α- cétoglutarate →
→ pyruvate + glutamate

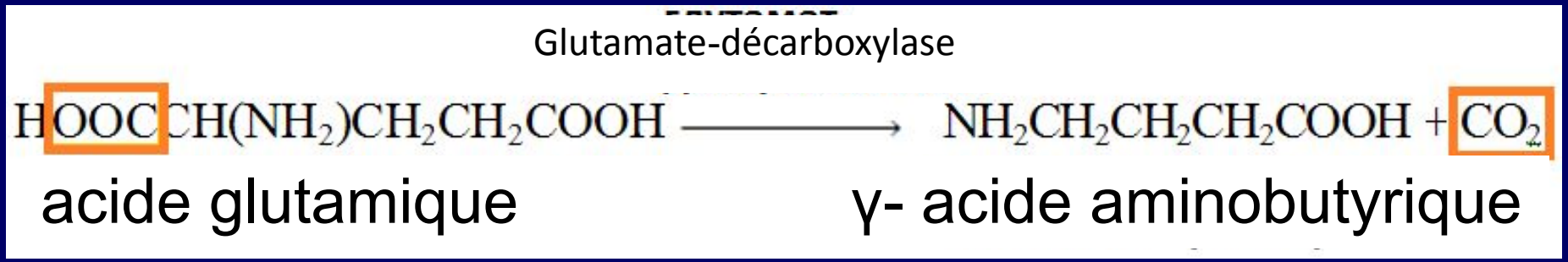
3. Décarboxylation



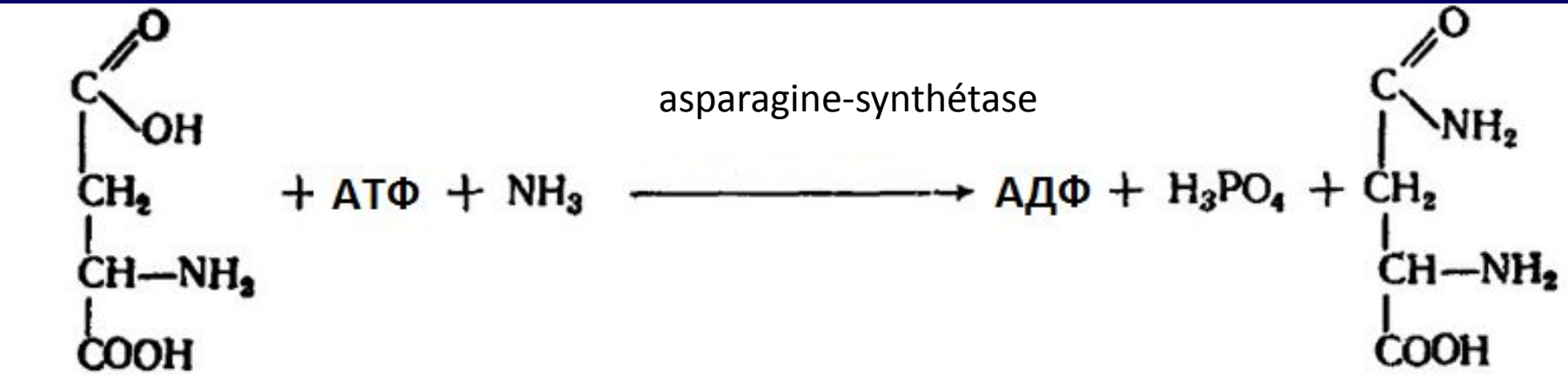
Décarboxylation de l'histidine :



Décarboxylation de l'acide glutamique :



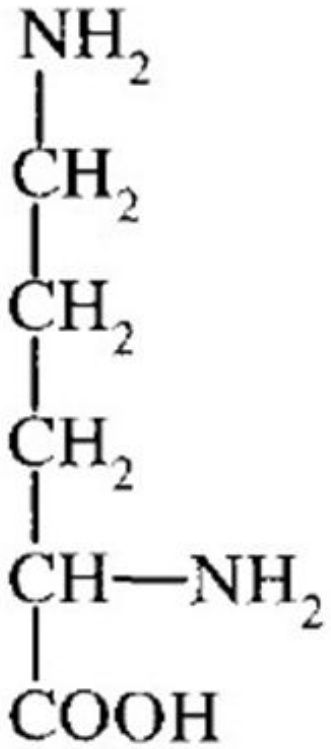
La fixation primaire de l`ammoniac



Le cycle ornithine

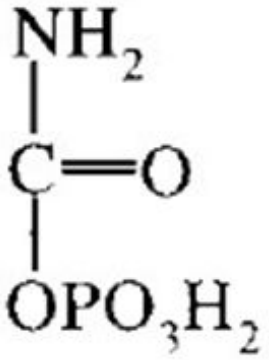
E – **carbamoylephosphatesynthétase (ammoniaquedépendente)**

2.



ornithine

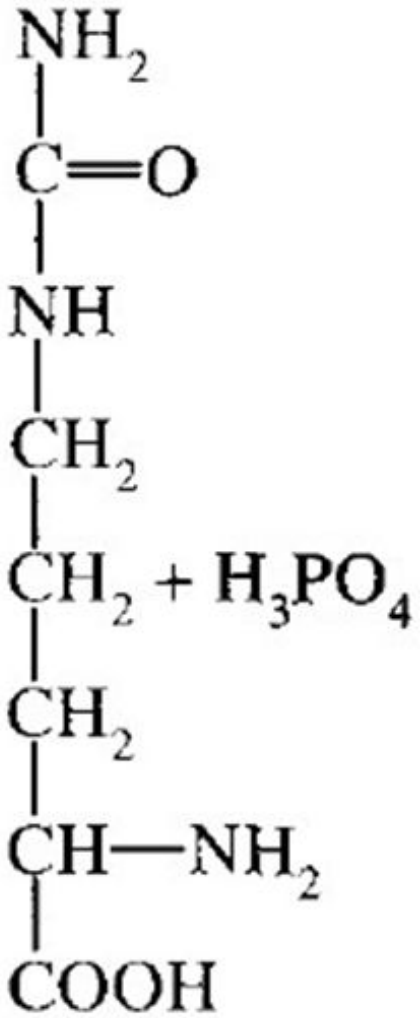
+



carbamoyl-

phosphate

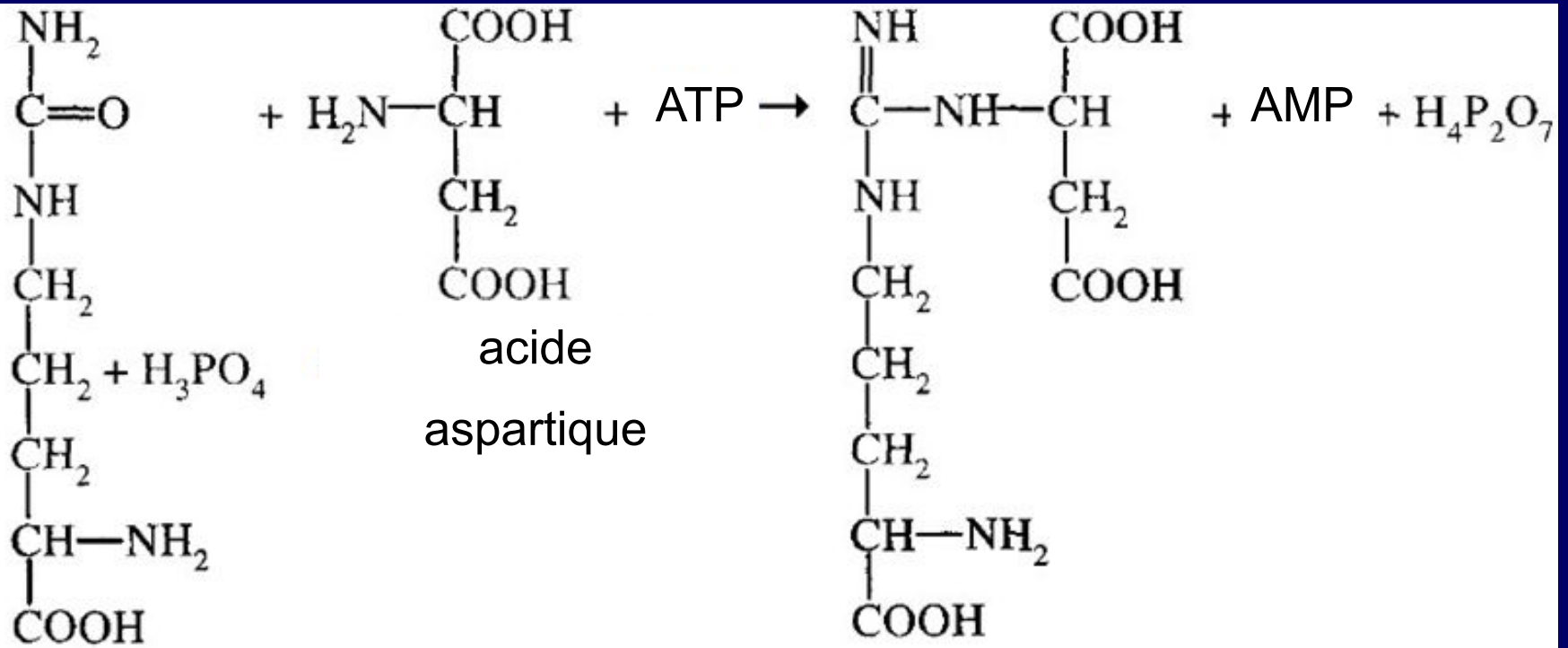
→



citrulline + H_3PO_4

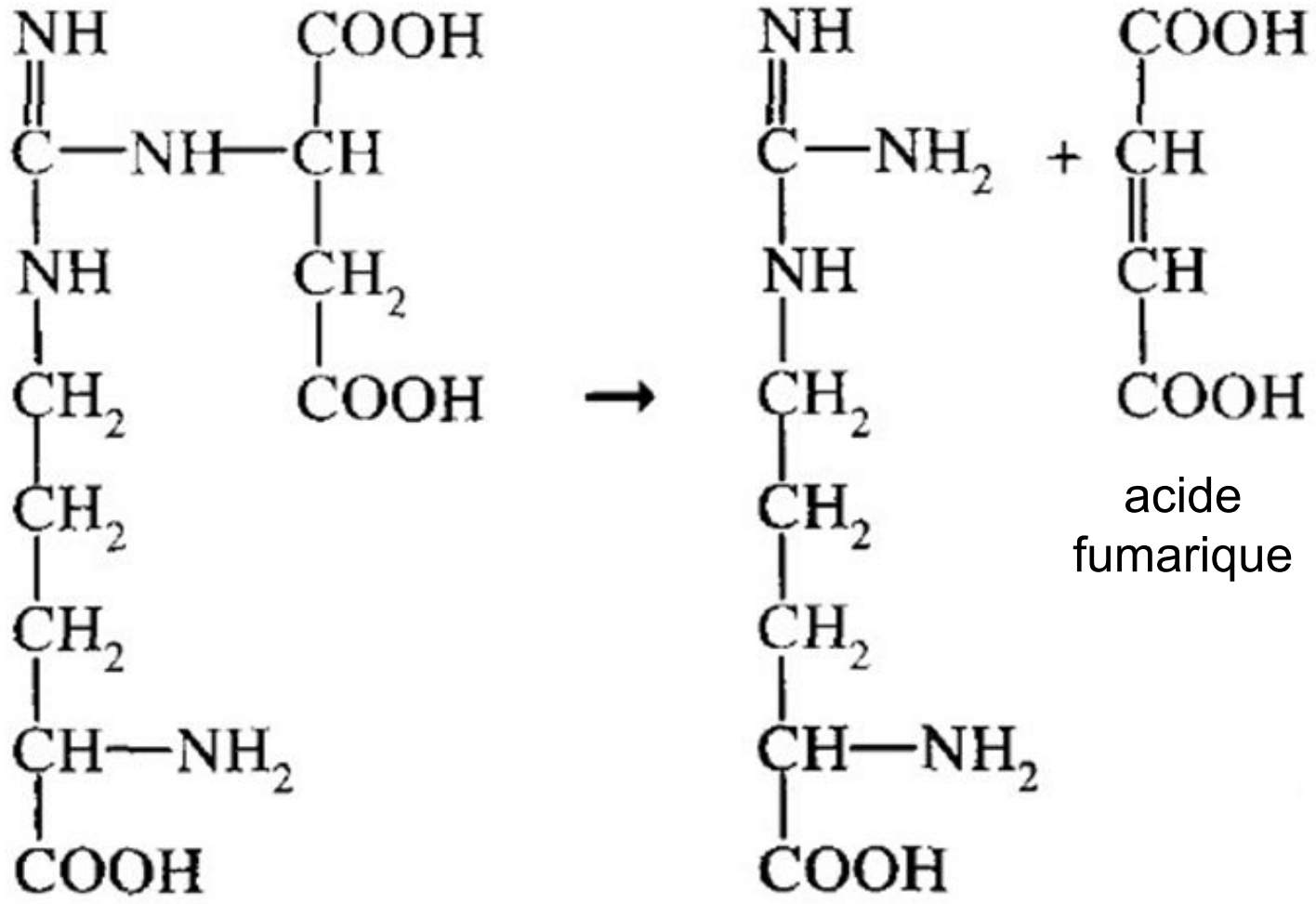
E – **ornithinecarbamoyletransférase**

3.



E – **argininesuccinatesynthétase**

4.



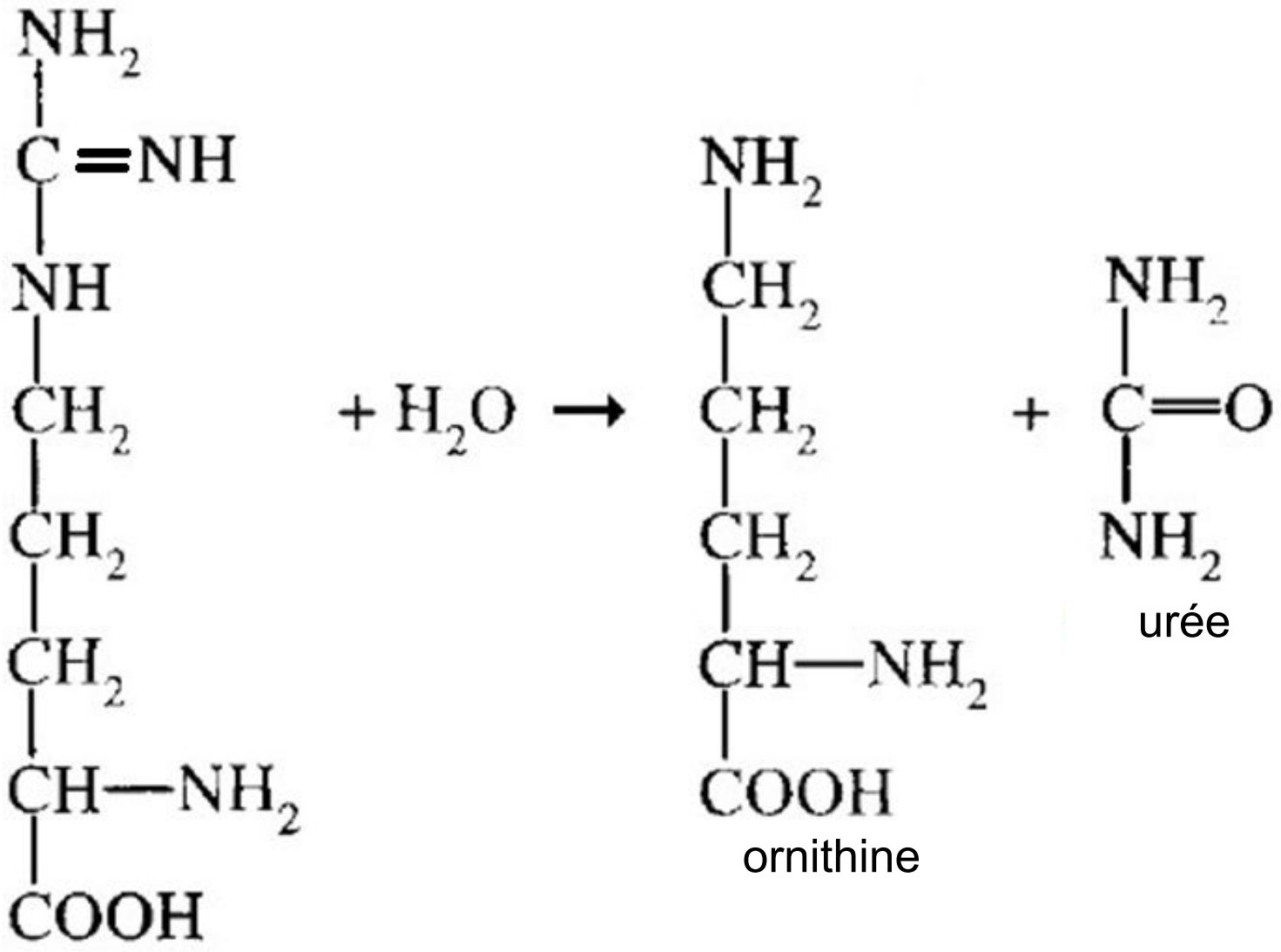
argininesuccinate

arginine

acide fumarique

E – **argininesuccinateliase**

5.



arginine

ornithine

urée

E – **arginase**

Foie

↓

urée

↓

sang

↓

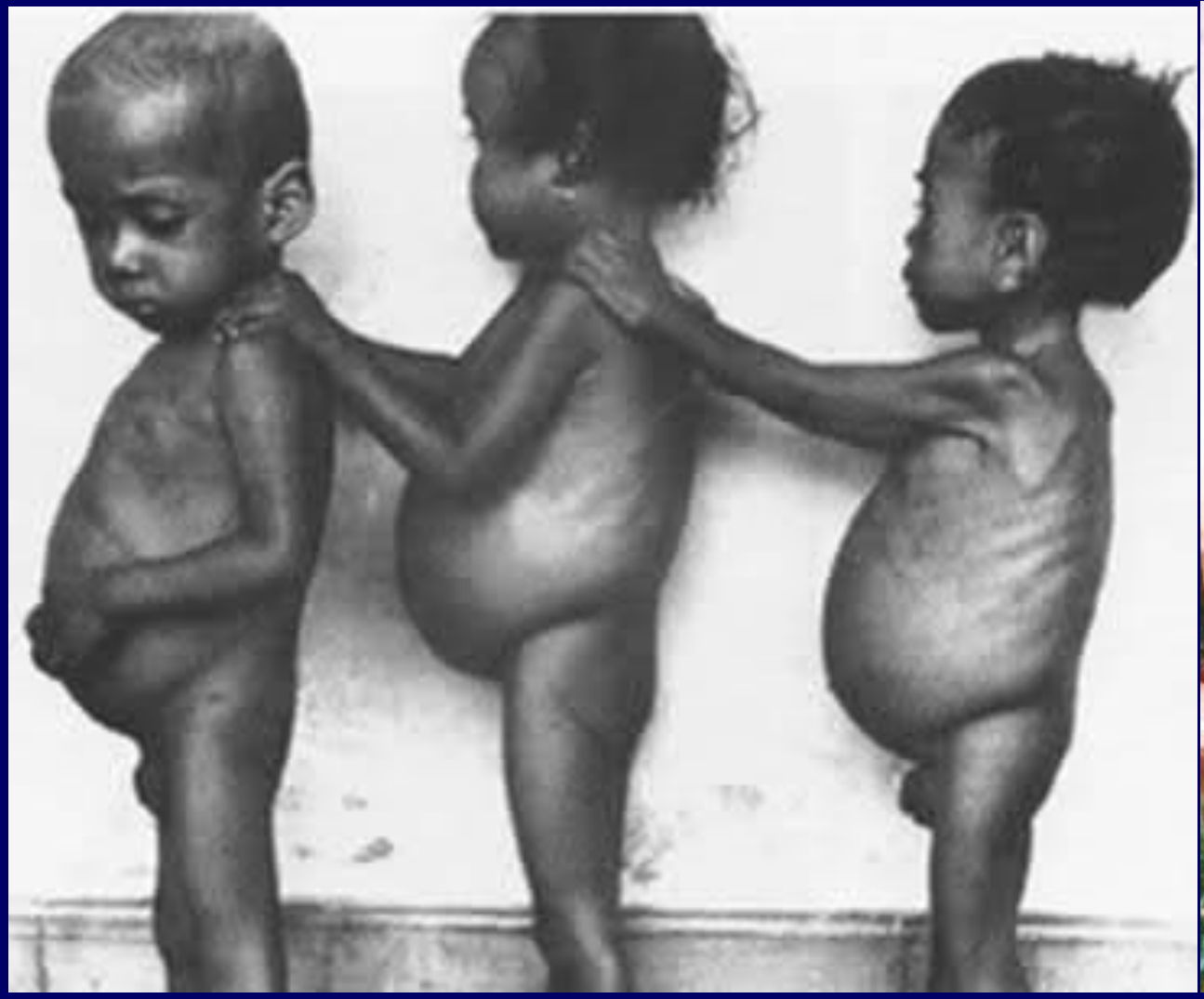
reins

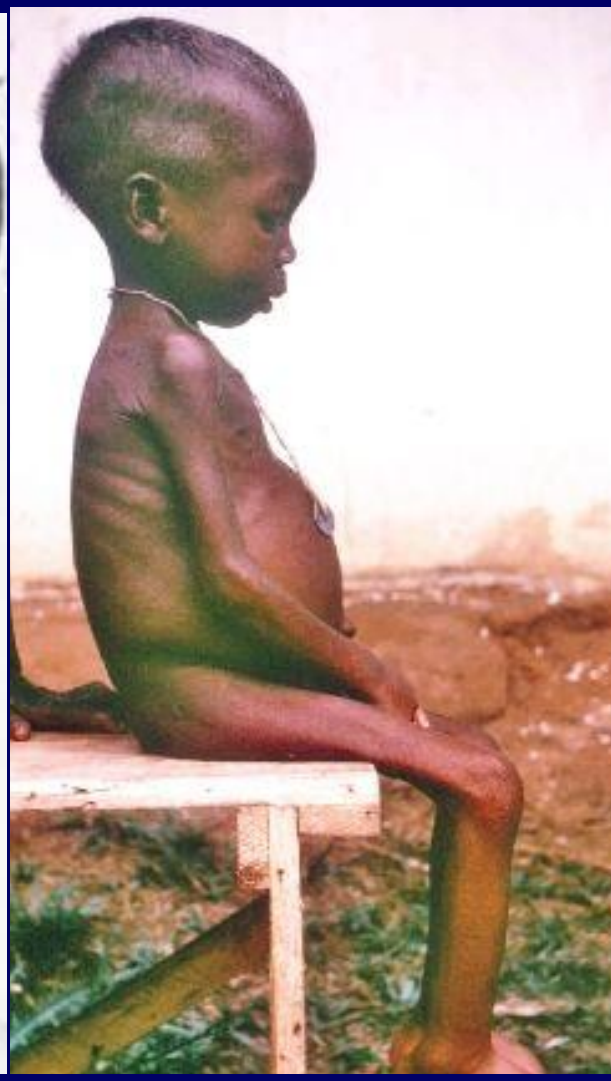
↓

urine

(urée)

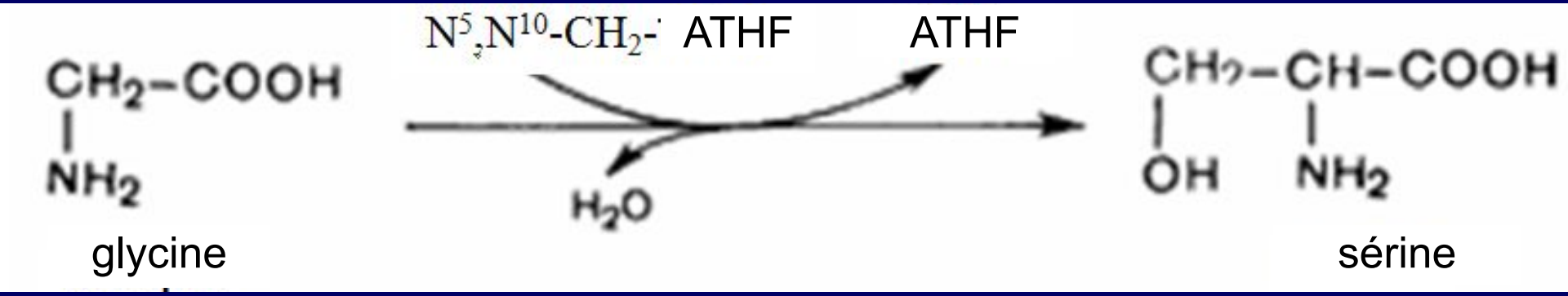
La pellagre infantile





métabolisme des acides aminés

- glycine, sérine, thréonine



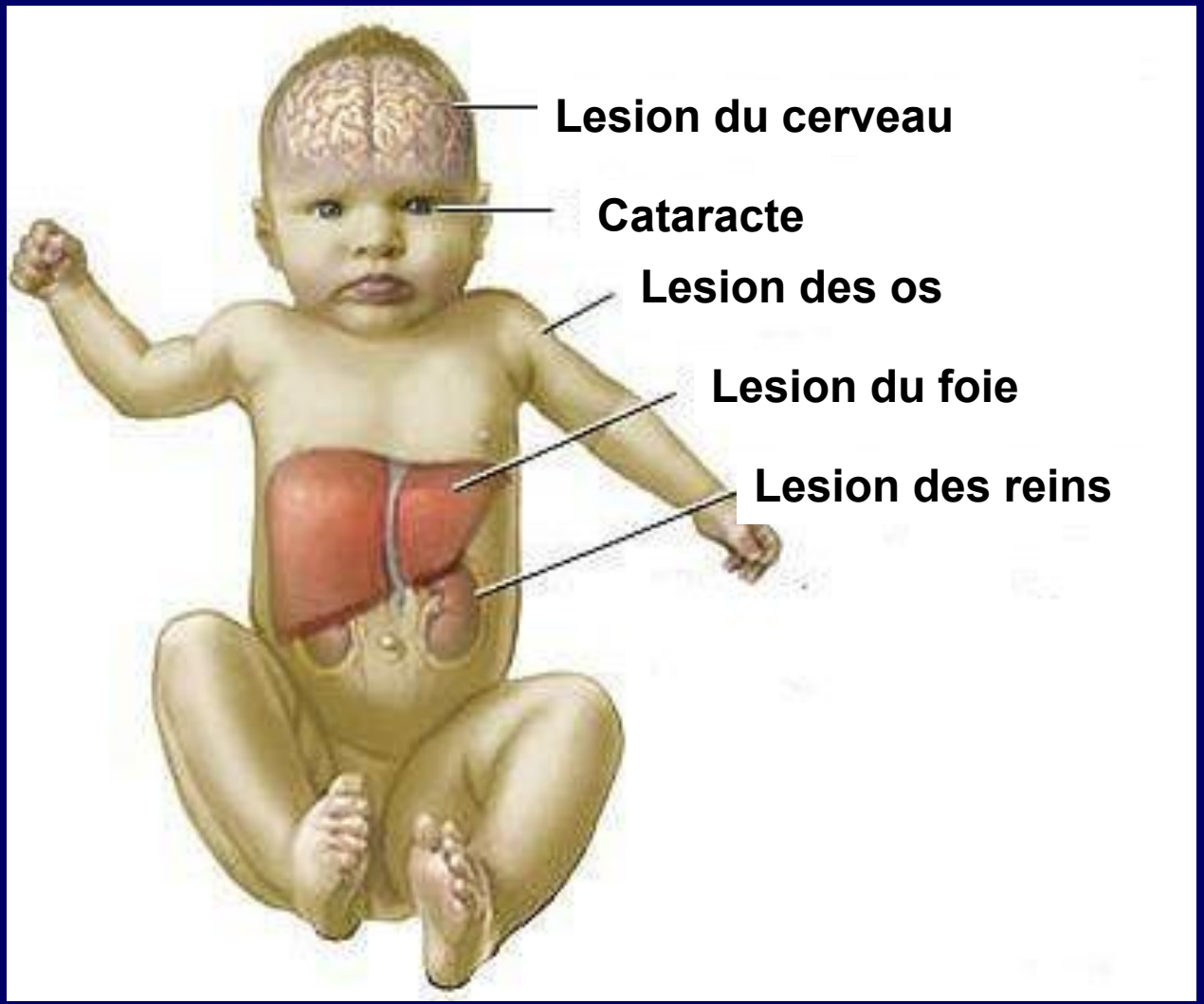
- des acides aminés sulfurés

Méthionine + ATP → S-adénosylméthionine + PP + P

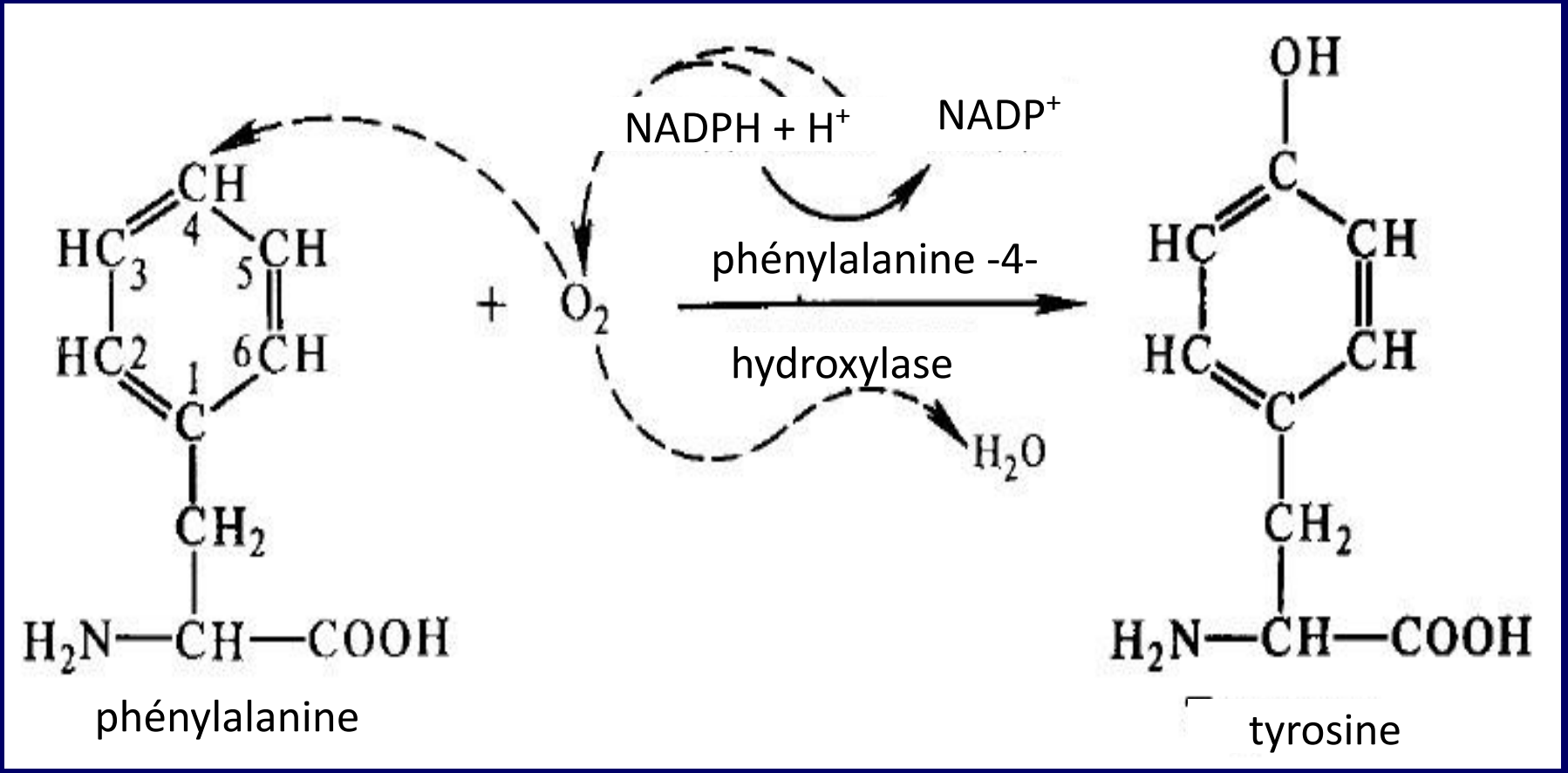
- des acides aminés à la chaîne ramifiée

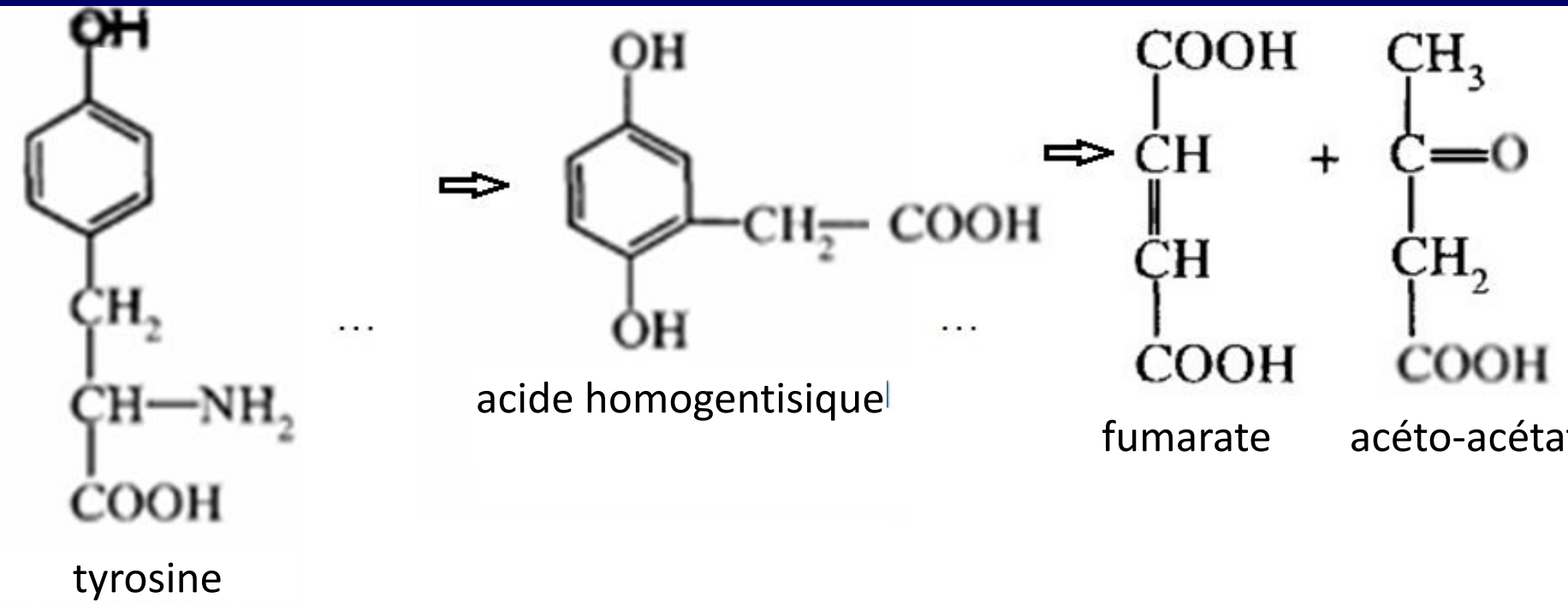
Leu, Ile, Val → a-céto-acides → l'acyl-CoA dérivés

la maladie du sirop d'érable



- La phénylalanine et la tyrosine





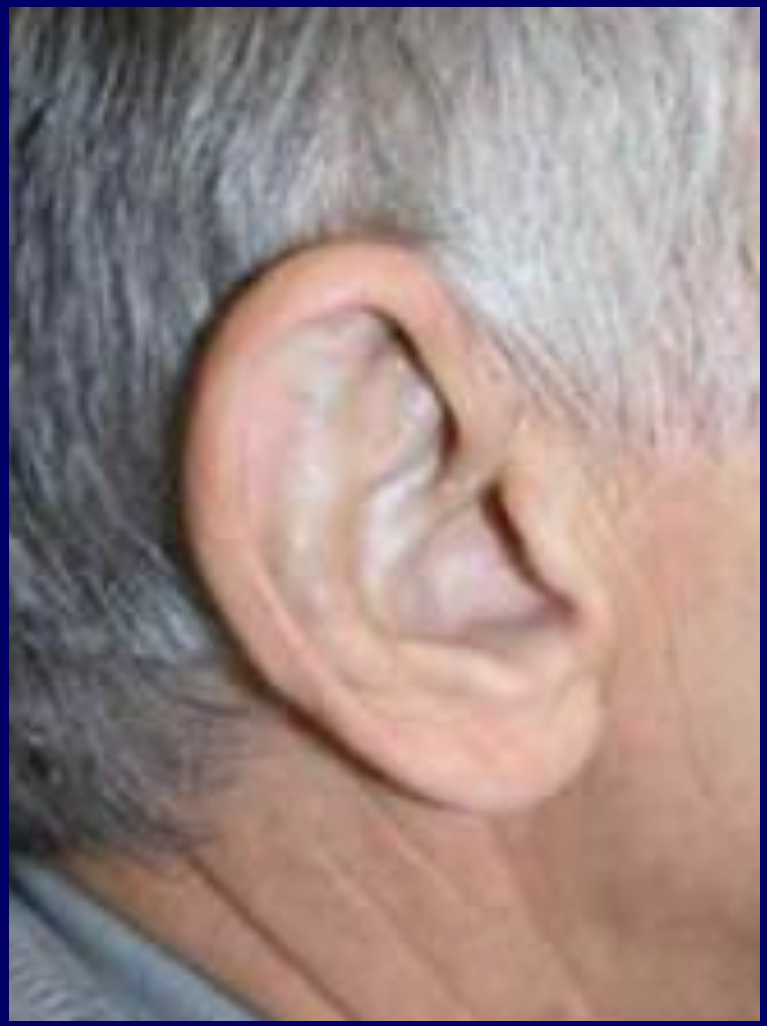
tyrosine

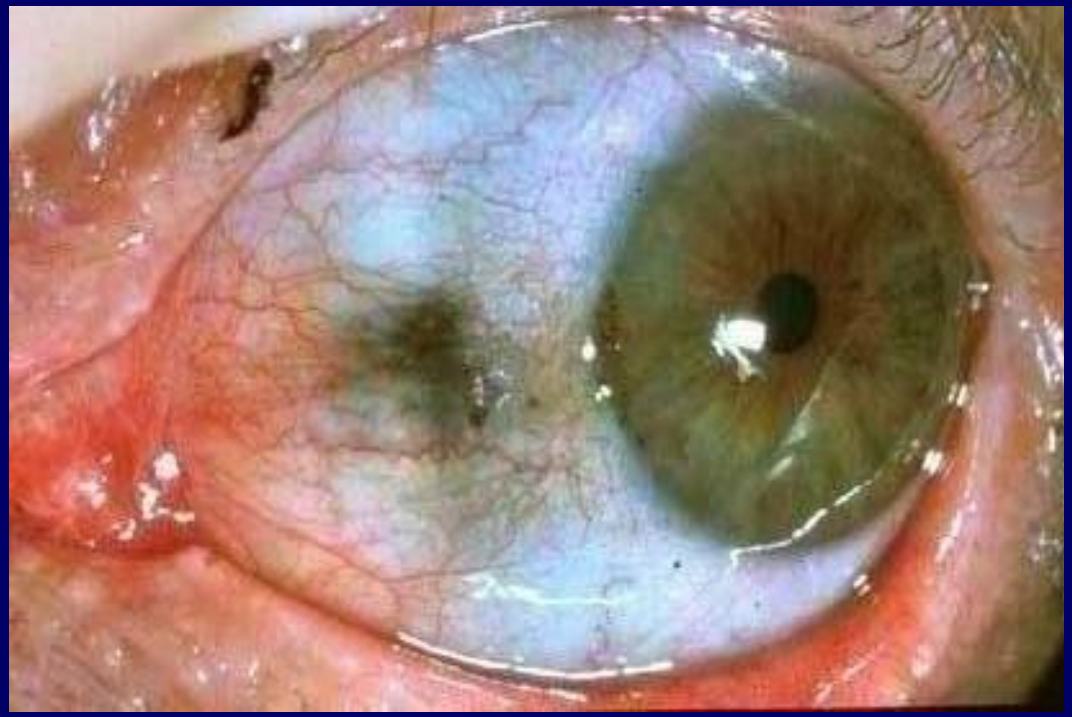
acide homogentisique

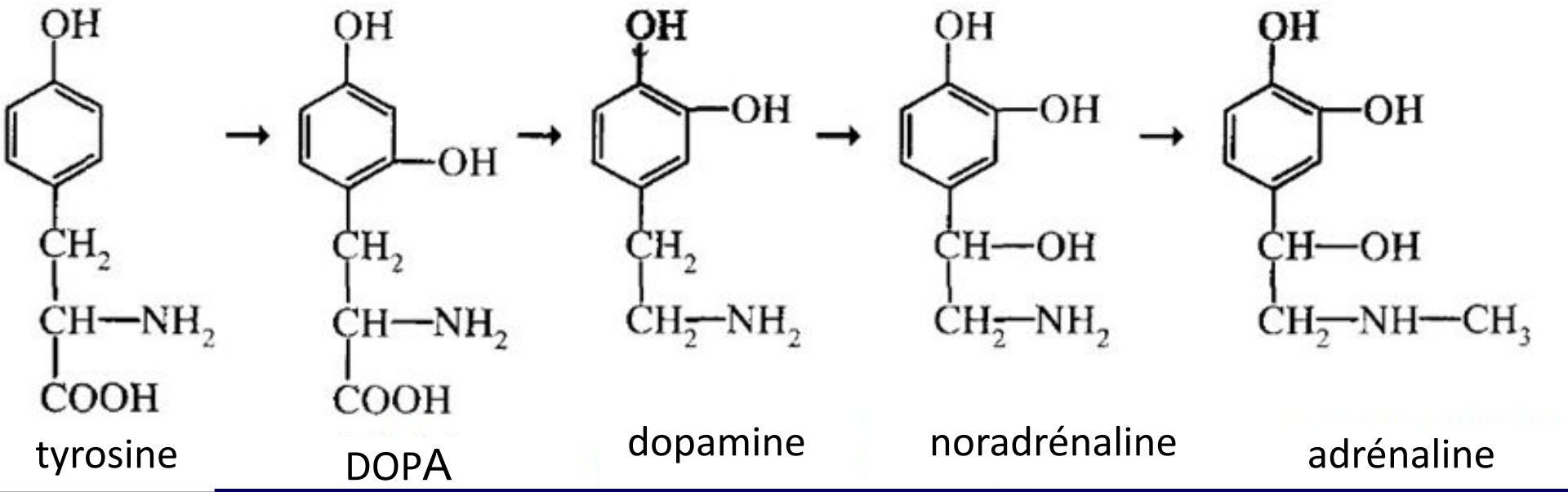
fumarate

acéto-acétate

L`alcaptonurie

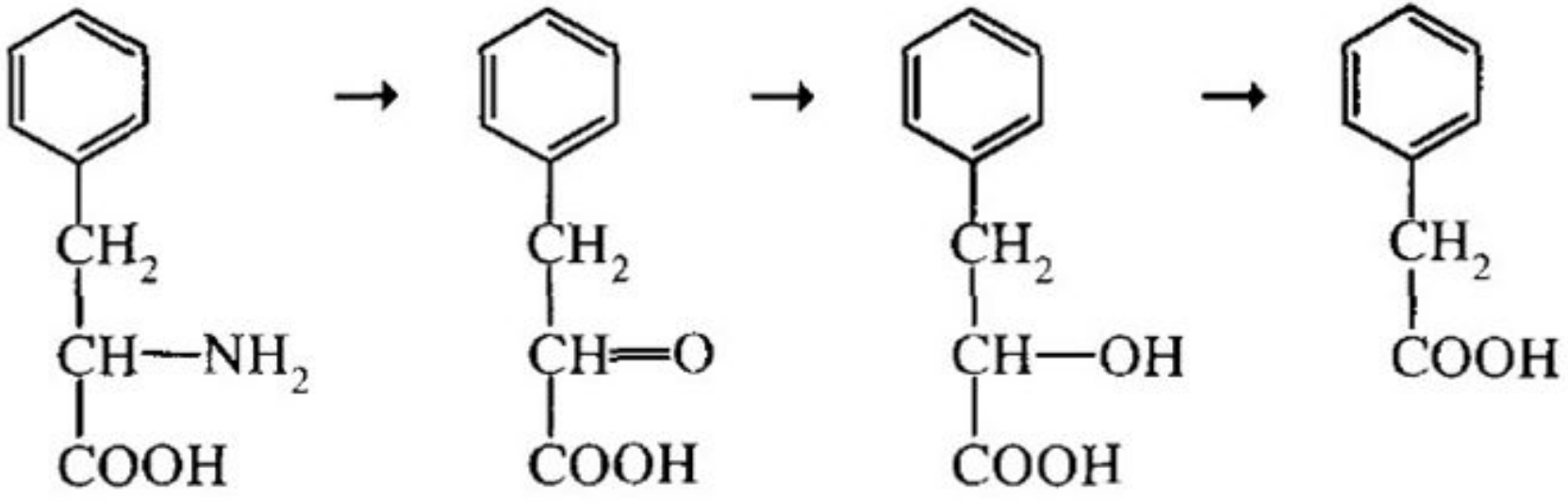






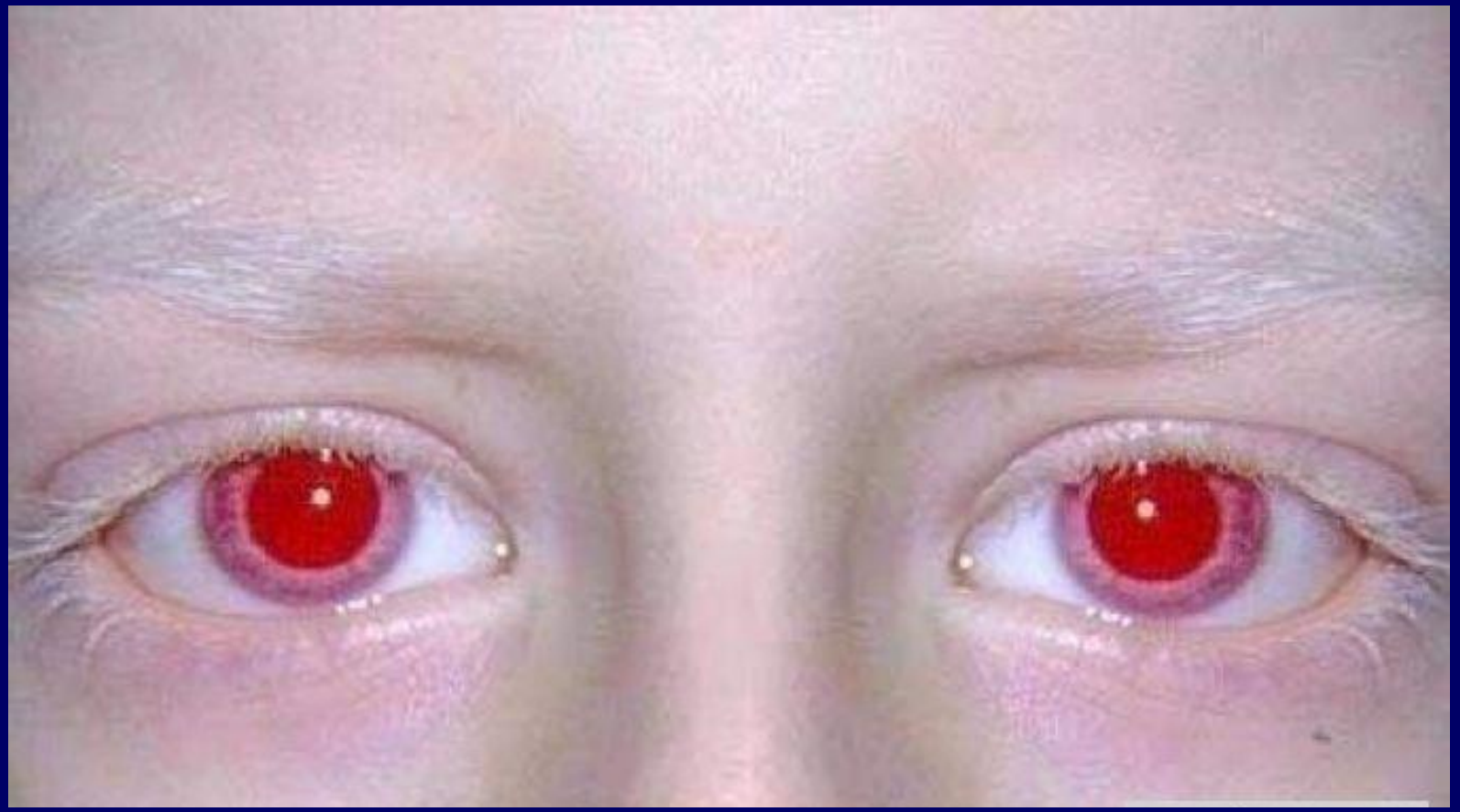
tyrosine DOPA dopamine noradrénaline adrénaline

La phénylcétonurie



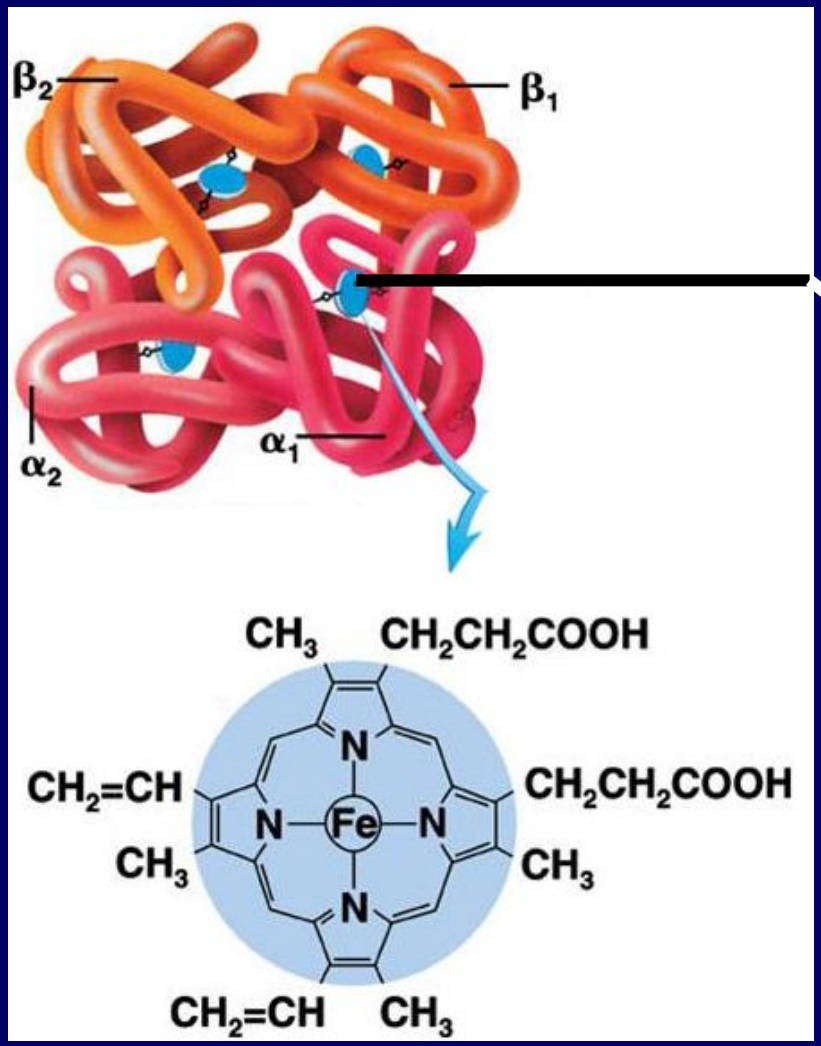
phénylalanine phénylpyruvate phényllactate phénylacétate

L'albinisme

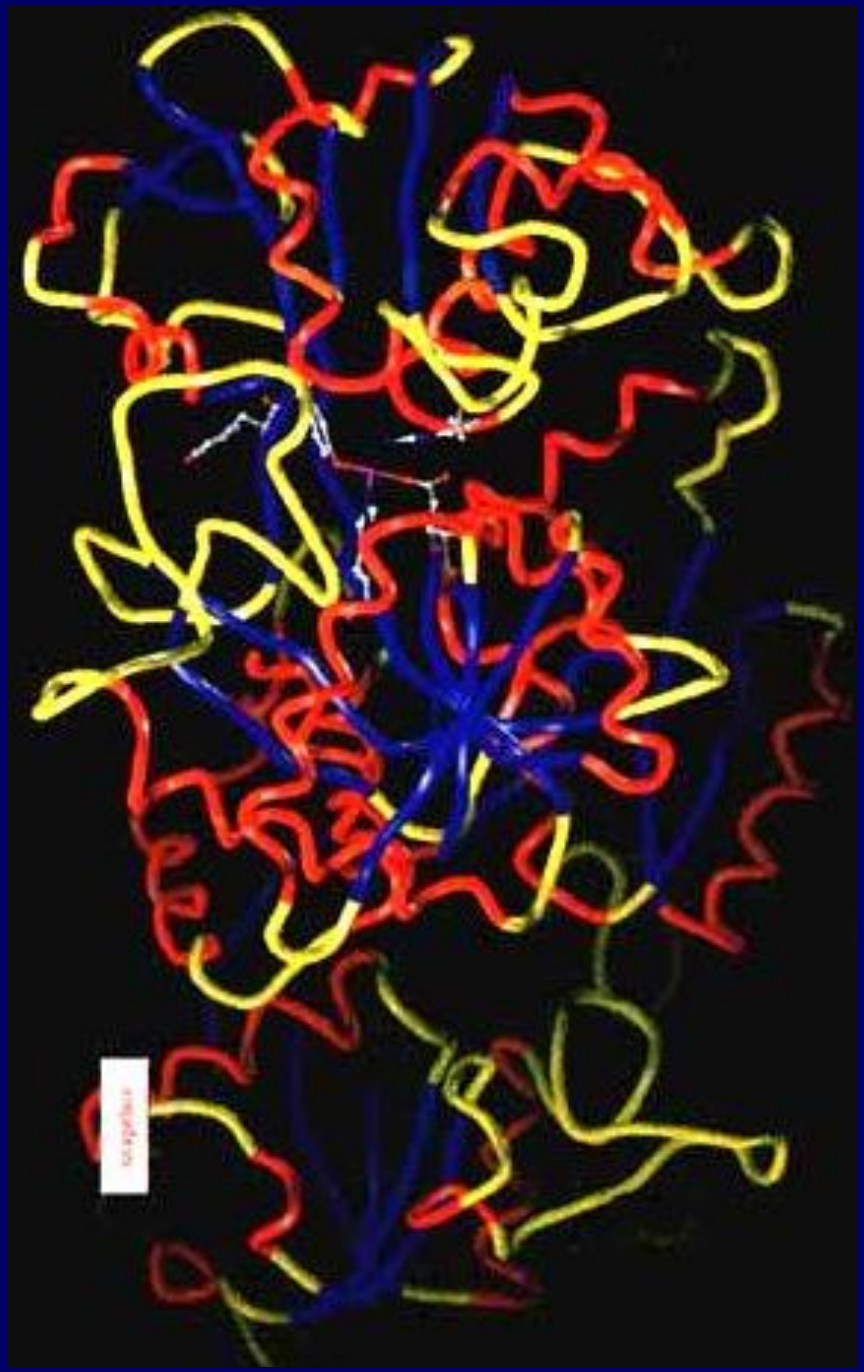


Métabolisme des protéines conjuguées

L'hémoglobine

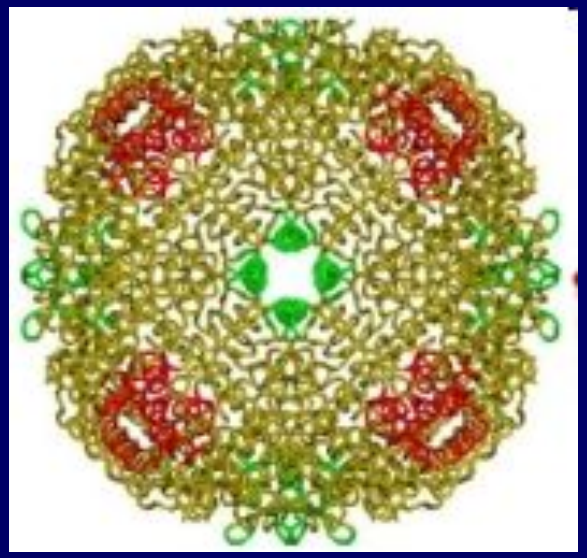


hém



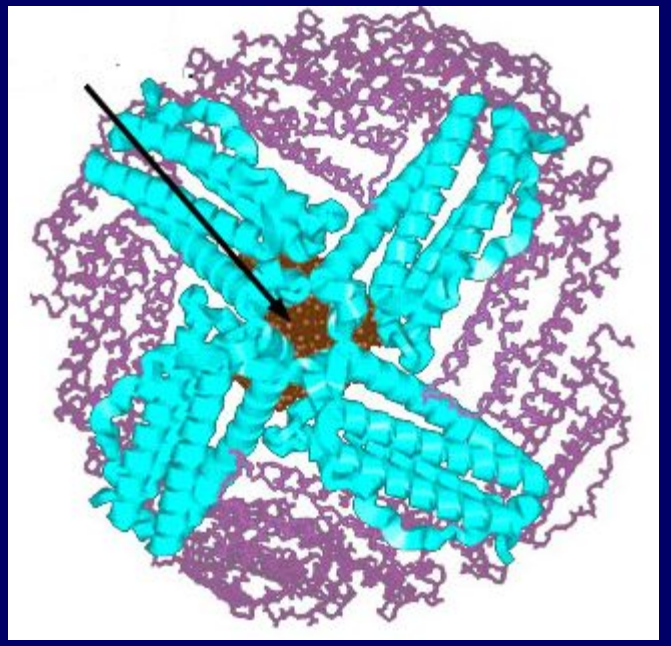
Le transferrine

Formation de la ferritine



l`apoferritine

+ Fe^{2+} ⟶



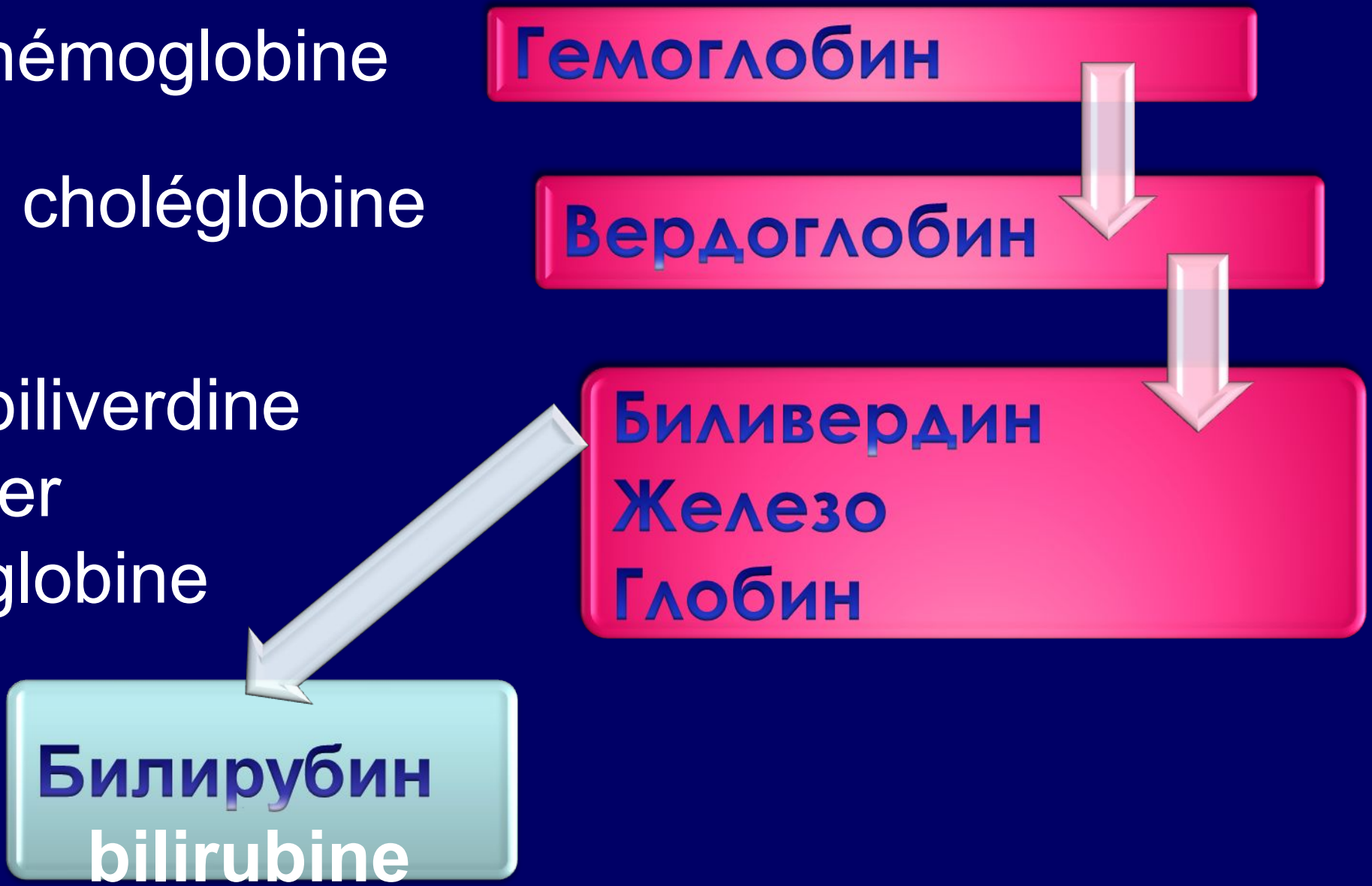
la ferritine

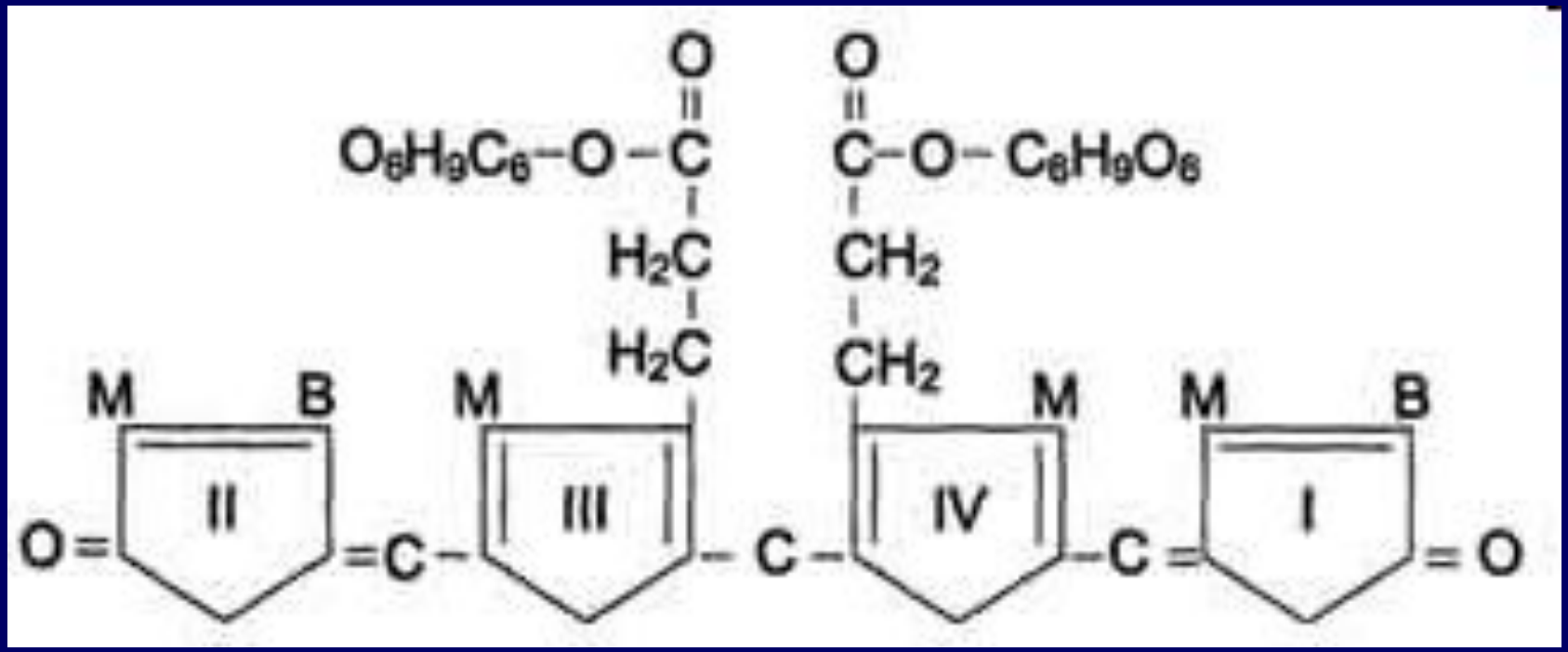
La décomposition de l'hémoglobine

hémoglobine

choléglobine

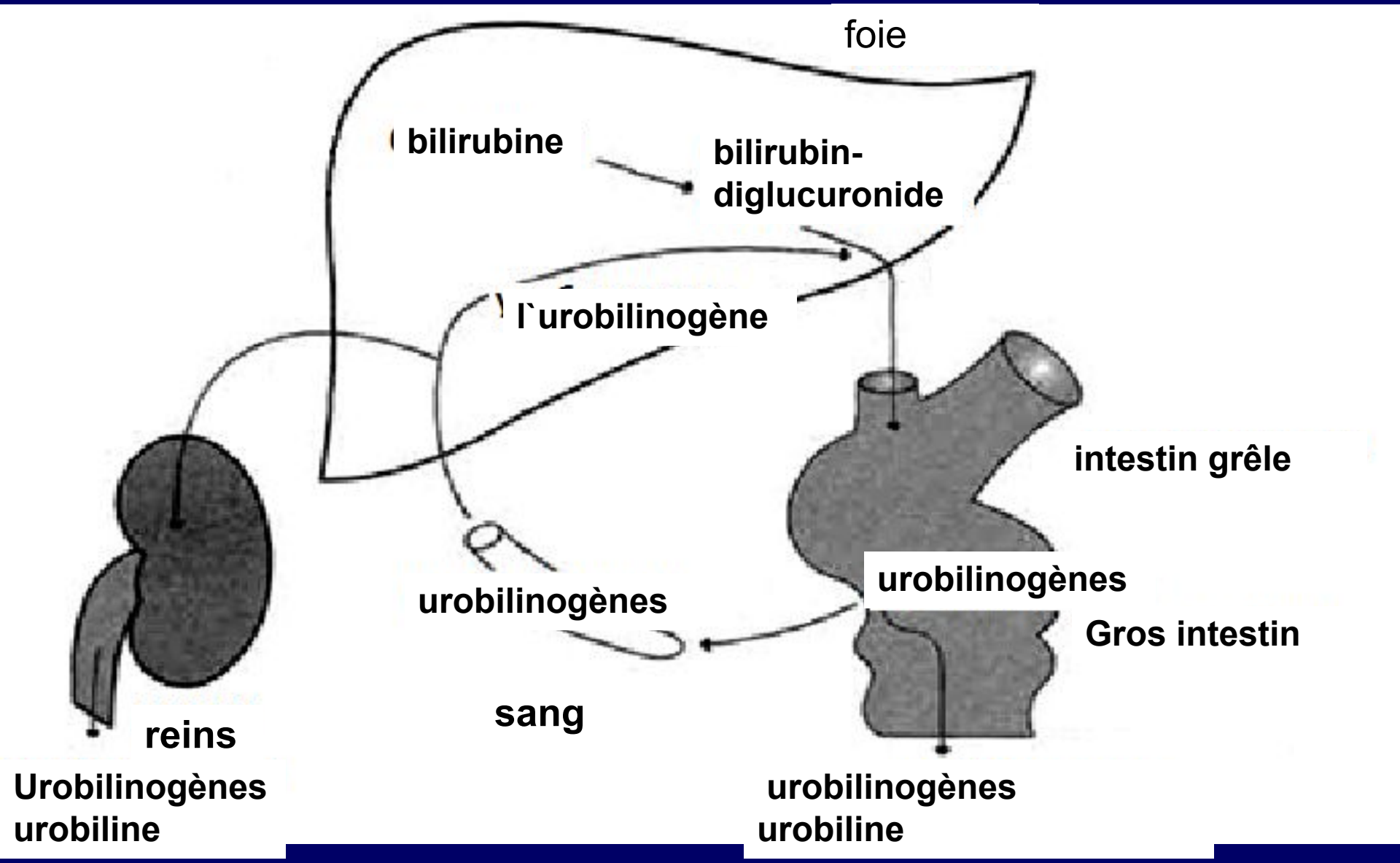
biliverdine
fer
globine



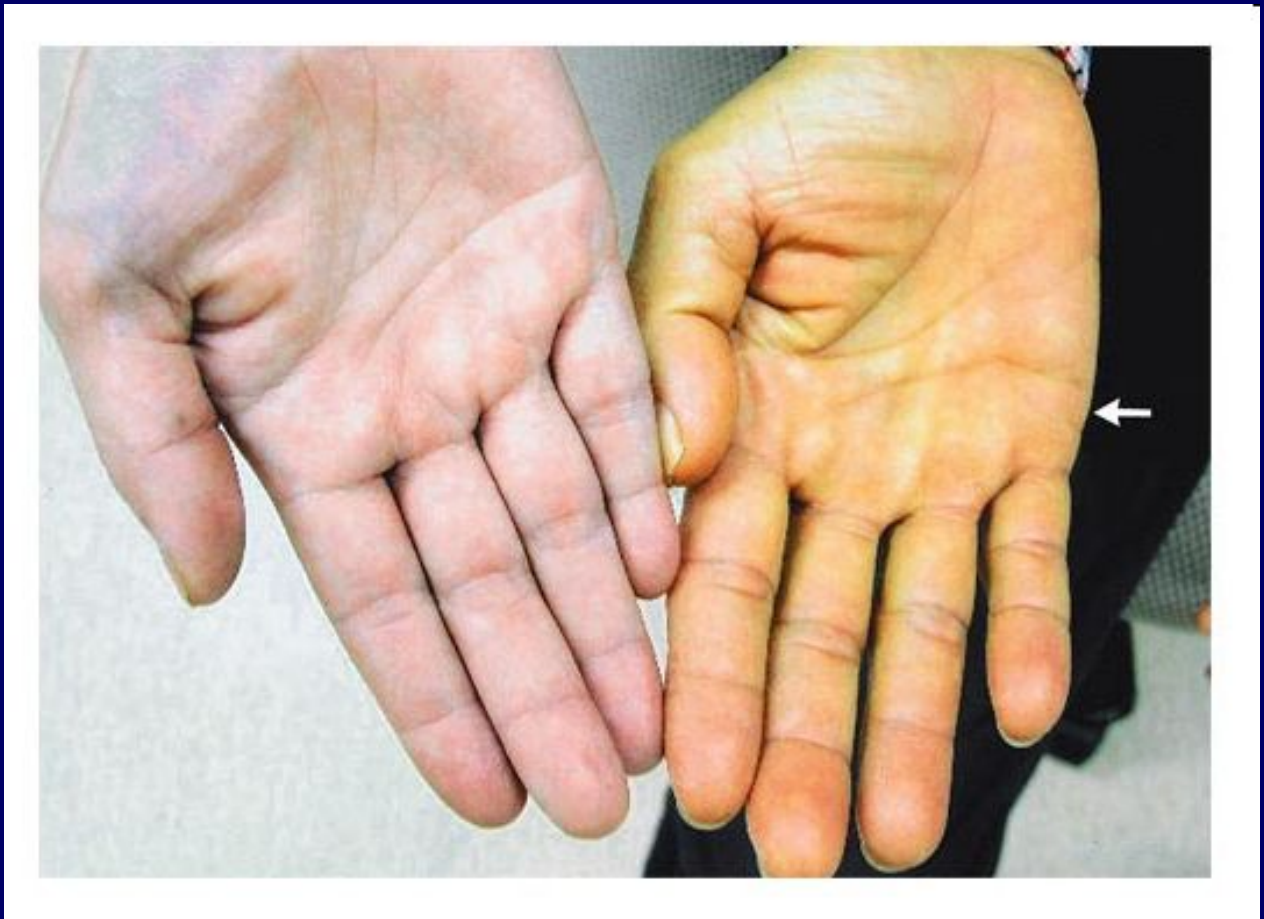


la bilirubine conjuguée (droite)

Le catabolisme de la bilirubine



Types des ictères (jaunisses)



DIAGNOSTIC DIFFÉRENTIEL

Type de l'ictere	sang			urine		fèces
	bilirubine			Bilirubine conjuguee	urobilinogene	stercobilinogene
	generale	Non-conjuguee	conjuguee			
L'ictère hémolytique	↑	↑	N ou ↑	0	+	↑
L'ictère hépatocellulaire	↑	N ou ↑	↑	↑	0	0
L'ictère cholostatique (hépatocanaliculaire;)	↑	↑	↑	↑	+	↓

N – norme; ↑ – élévation; ↓ – abaissement;

0 – non déterminé; + – déterminé

La synthèse de l`hémoglobine