

RÉUNION ANNUELLE
DU GROUPE FRANÇAIS

DE NEURO-GASTROENTÉROLOGIE



2&3 MAI
2024
ANNECY
LES PENSIÈRES
VEYRIER-DU-LAC

Glutamine et syndrome de l'intestin irritable : de la recherche à la prescription

Nicolas Cenac

Mécanismes



GFNG

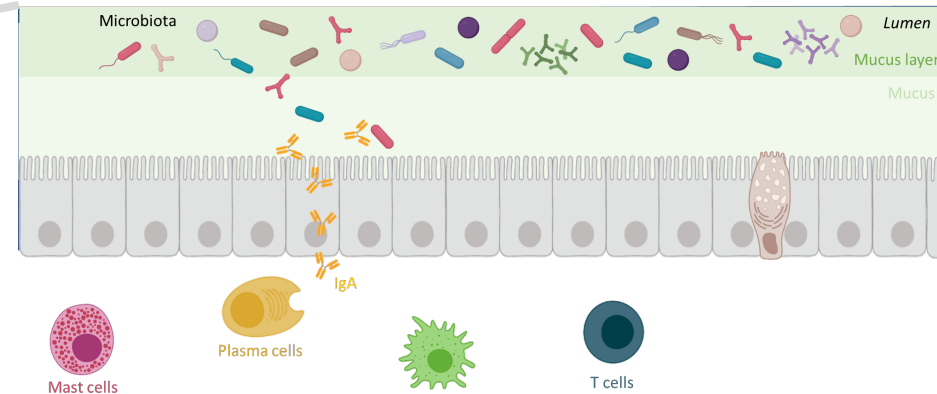
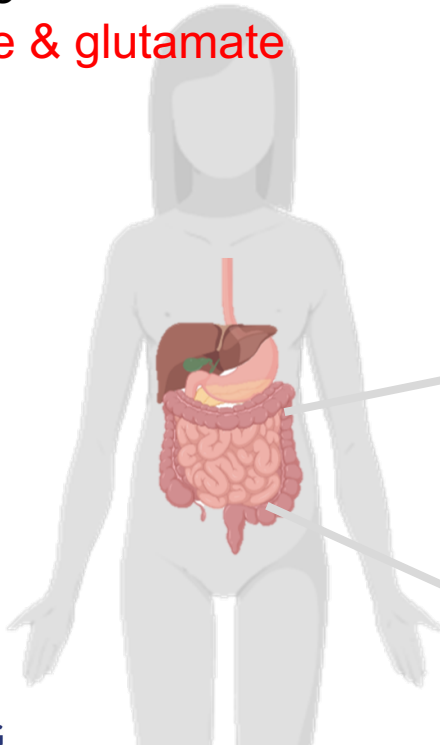
Groupe Français de
Neuro-Gastroentérologie

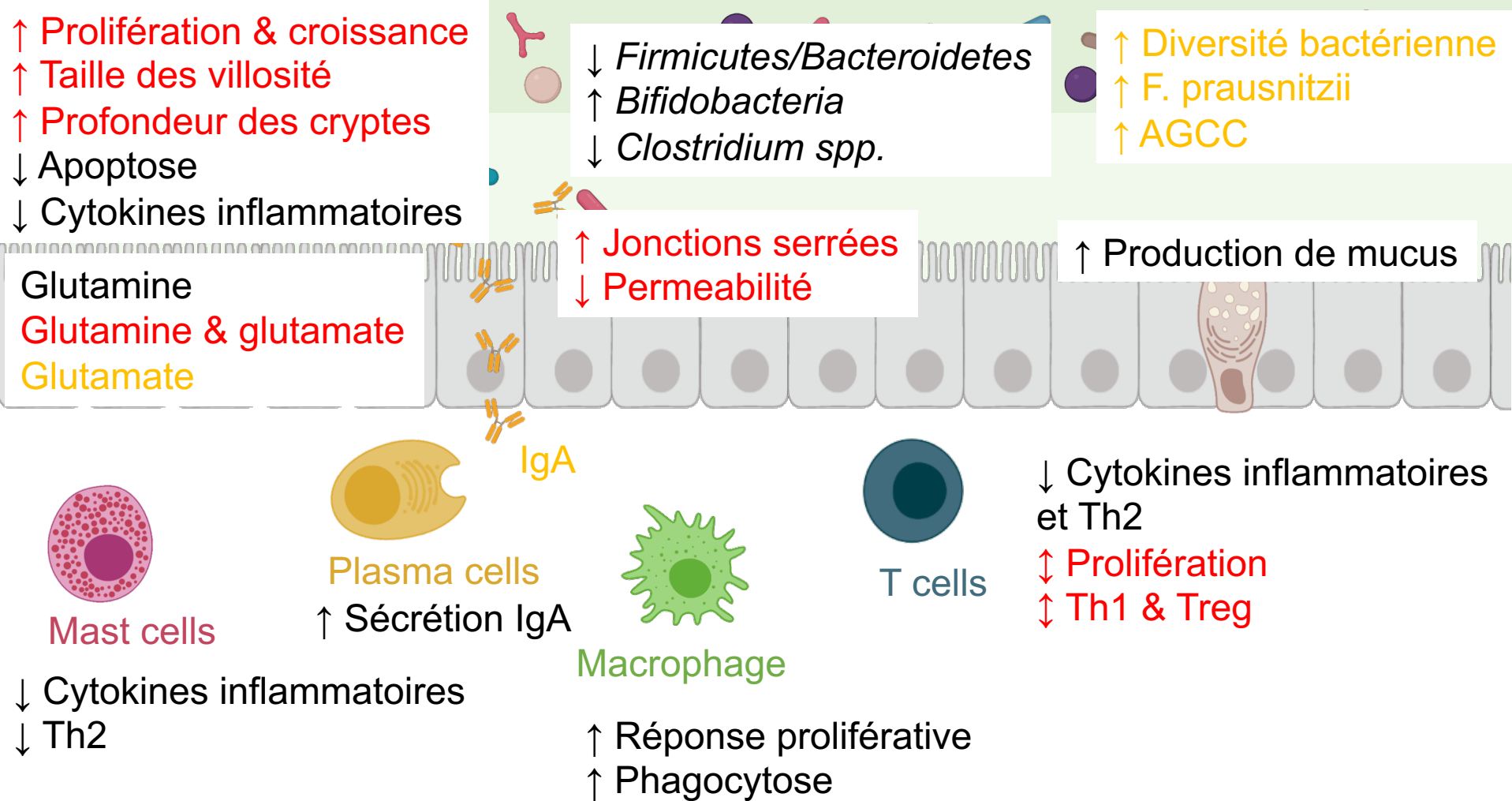
1. Effet de la glutamine et du glutamate sur les fonctions intestinales



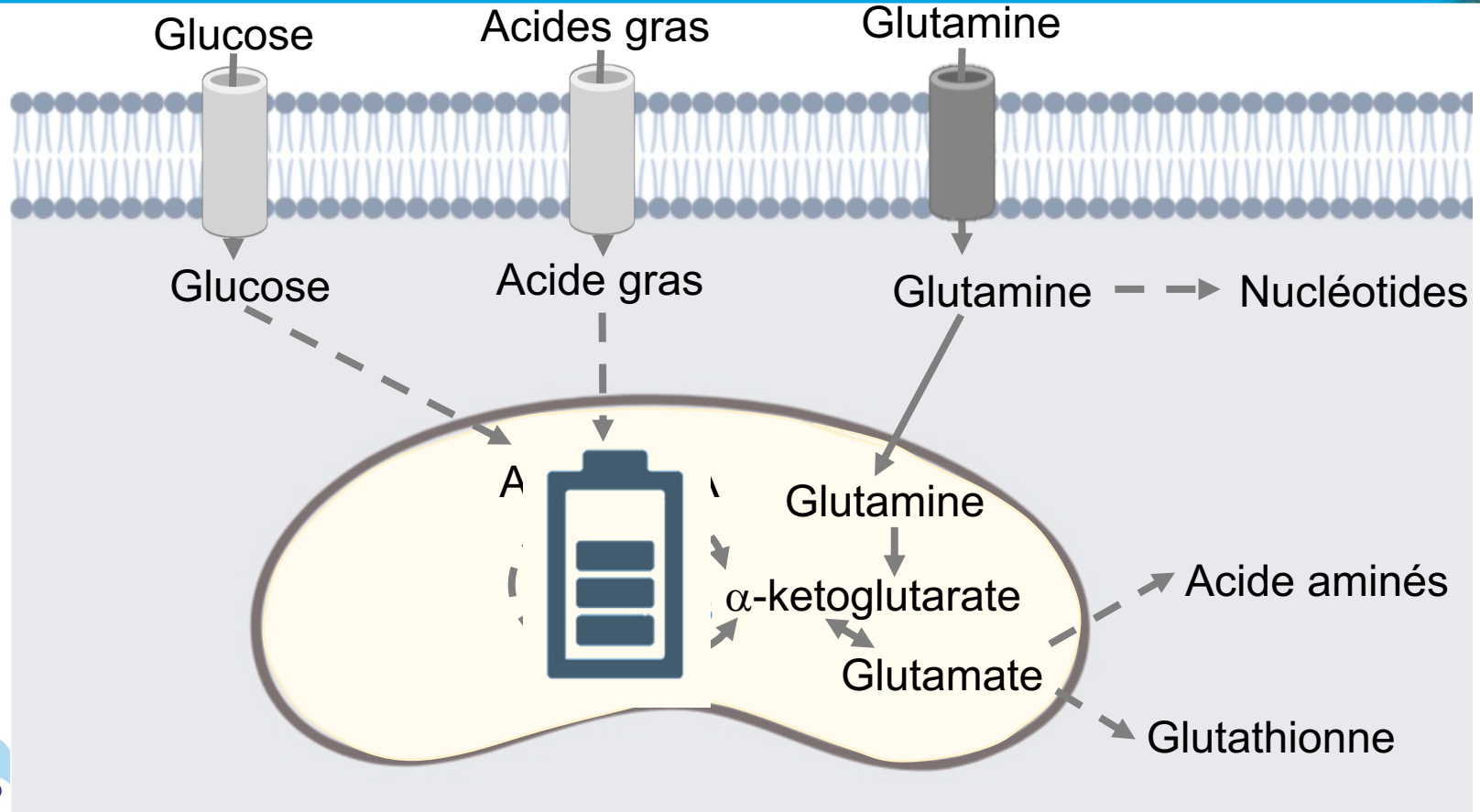
Glutamine
Glutamine & glutamate

- ↑ Antioxydants (glutathionne)
 - ↓ Stress oxydatif
 - ↑ Production d'énergie
 - ↓ Translocation bactérienne
- Indispensable aux fonctions et croissance cellulaire

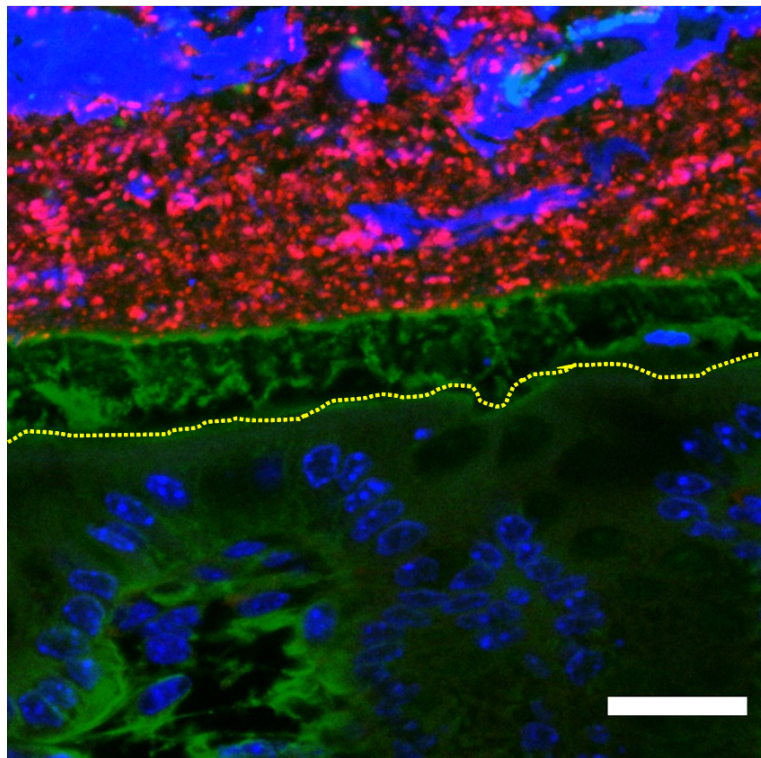




1. Métabolisme de la glutamine



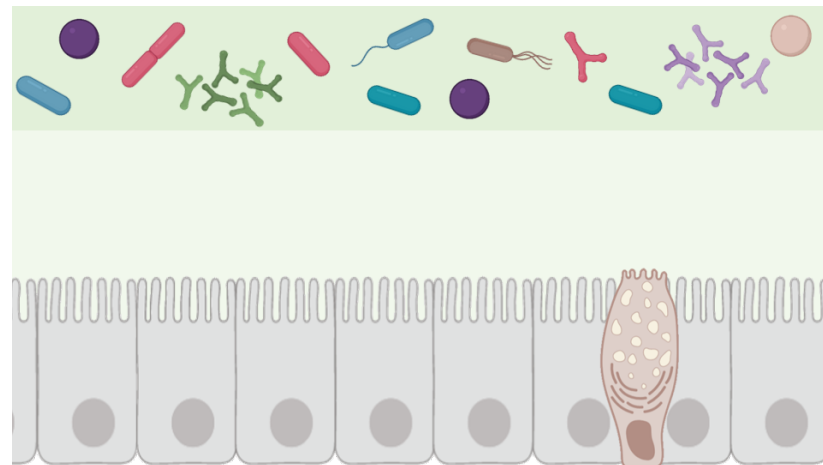
2. Glutamine et mucus



Bactérie

Mucus

Epithélium



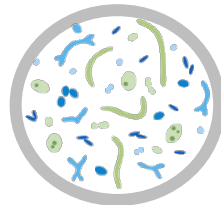
2. Glutamine et mucus



Control



Colon



Microbiote

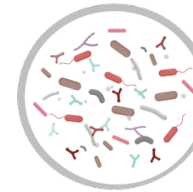
VS.



Stress

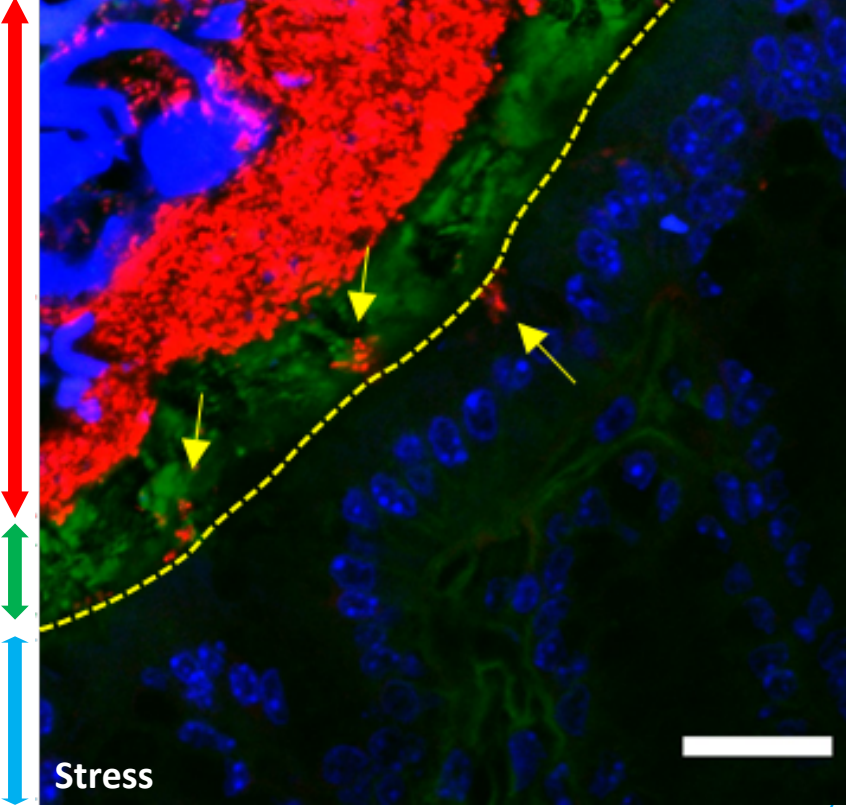
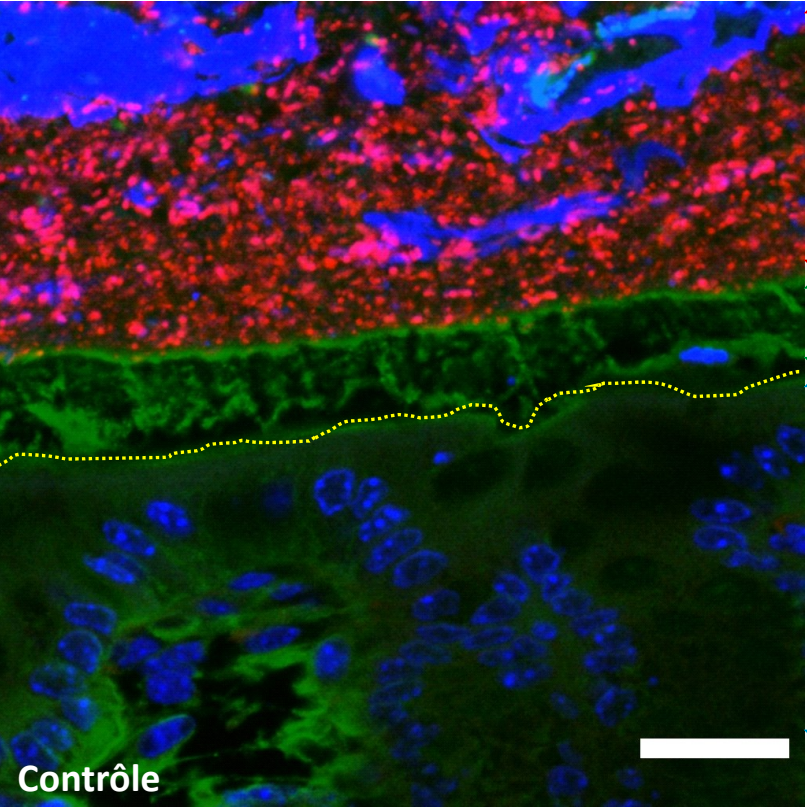


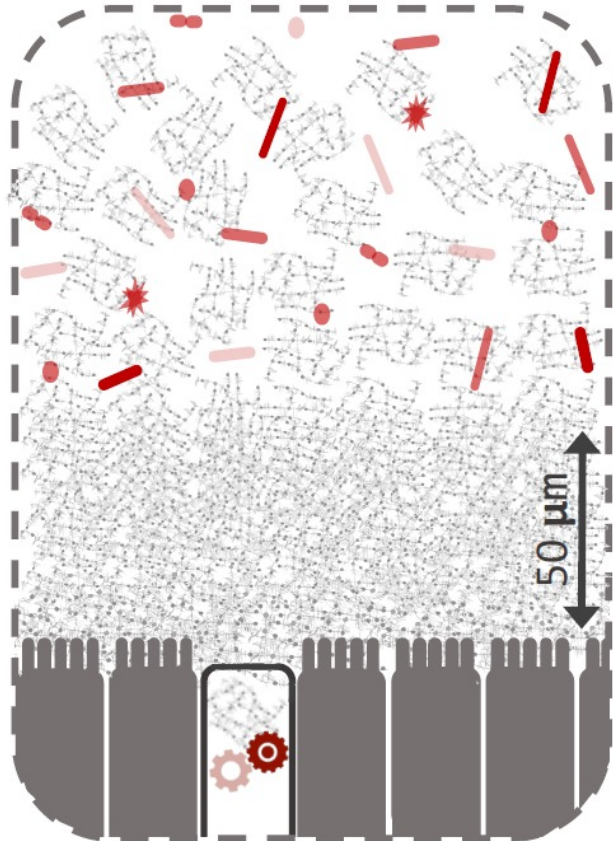
Hypersensibilité



Dysbiose

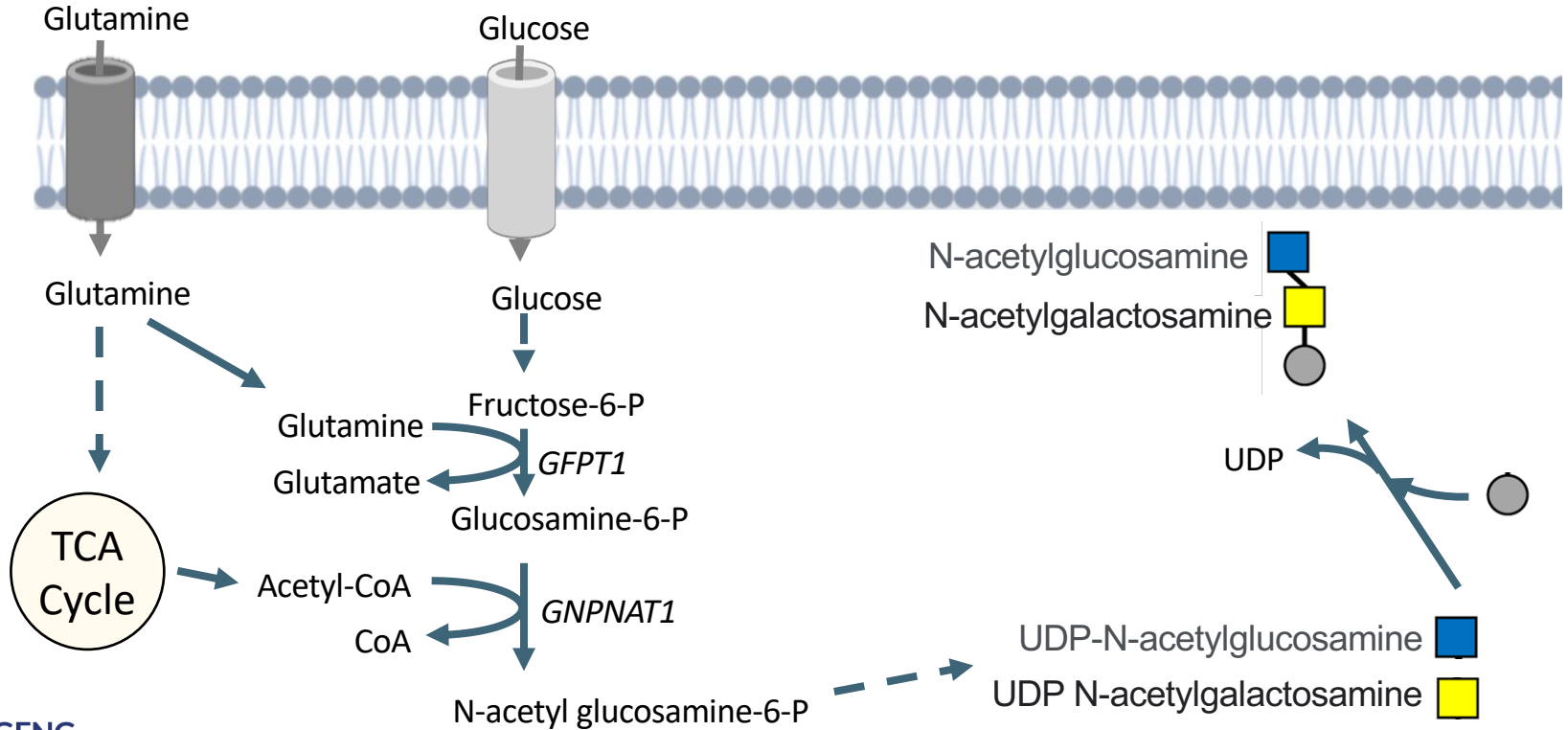
2. Glutamine et mucus



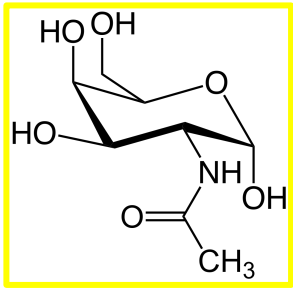


- ❑ Mucus : protection chimique, mécanique et microbienne
- ❑ Les cellules caliciformes synthétisent des mucines : des protéines fortement glycosylées formant des polymères aux propriétés viscoélastiques
- ❑ Une couche externe, niche de bactéries, évacuée par le péristaltisme
- ❑ Une couche interne, plus dense et sans bactéries
- ❑ Peptides antimicrobiens et immunoglobulines retenues par le mucus

2. Glutamine et mucus



2. Glutamine et mucus

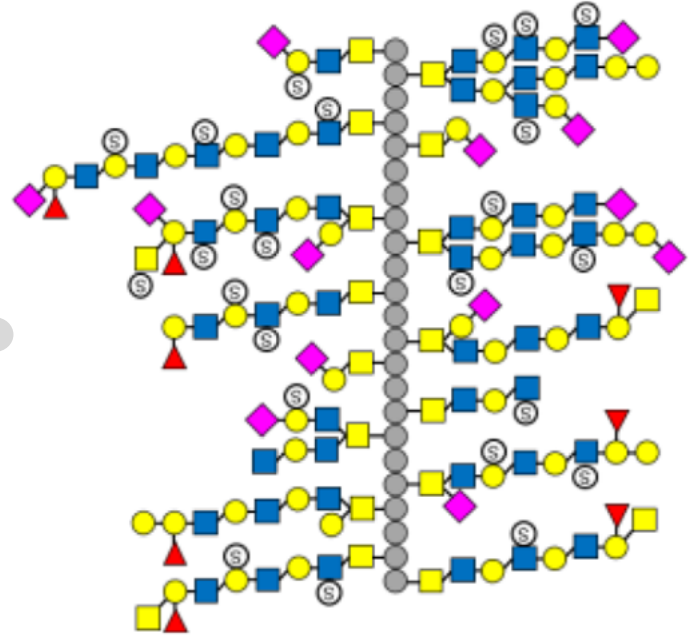
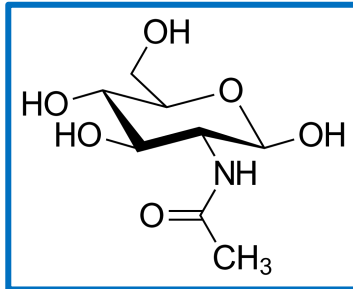


N-acetylgalactosamine

N-acetylglucosamine

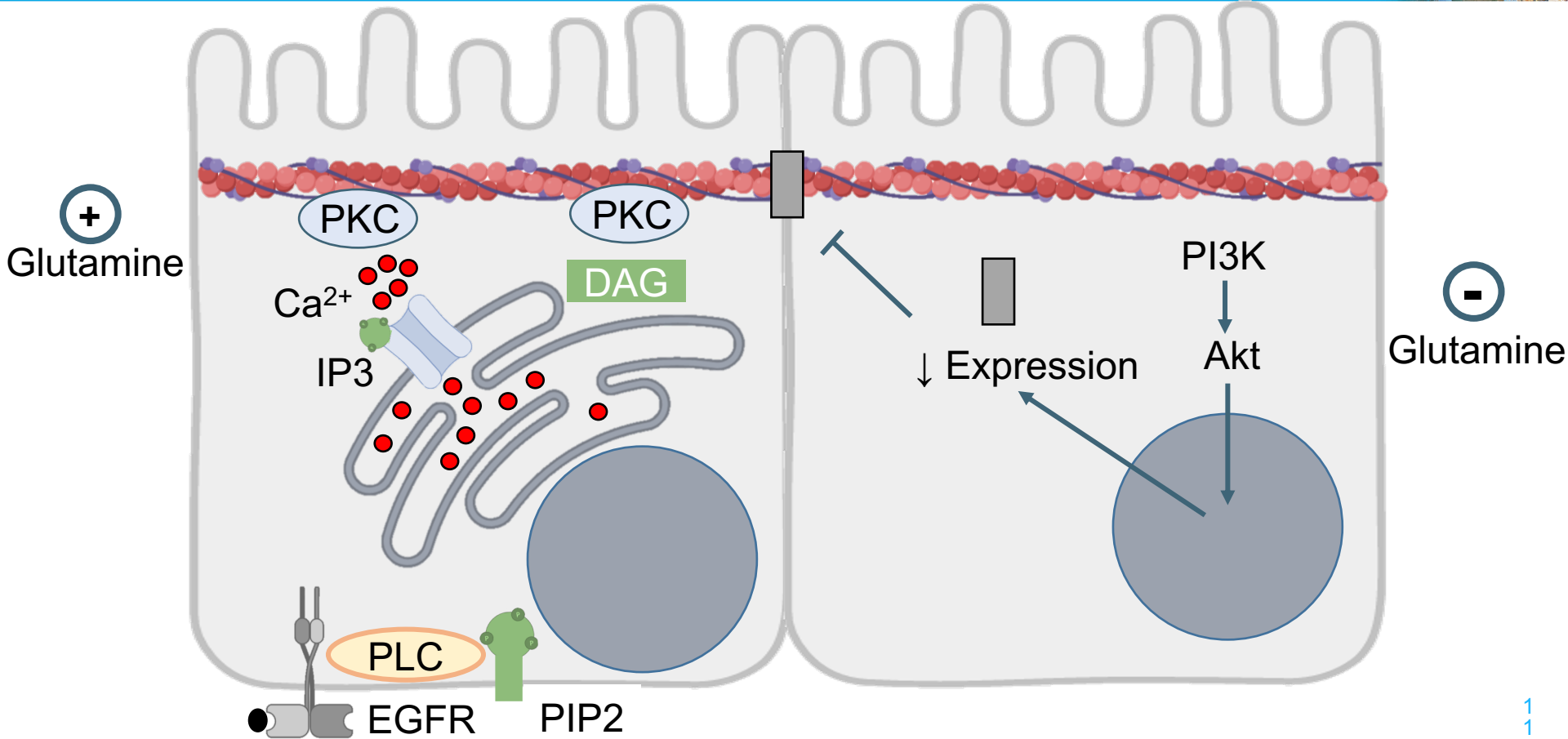


Acid aminé



Structure en forme de goupillon
de glycoprotéine de mucine

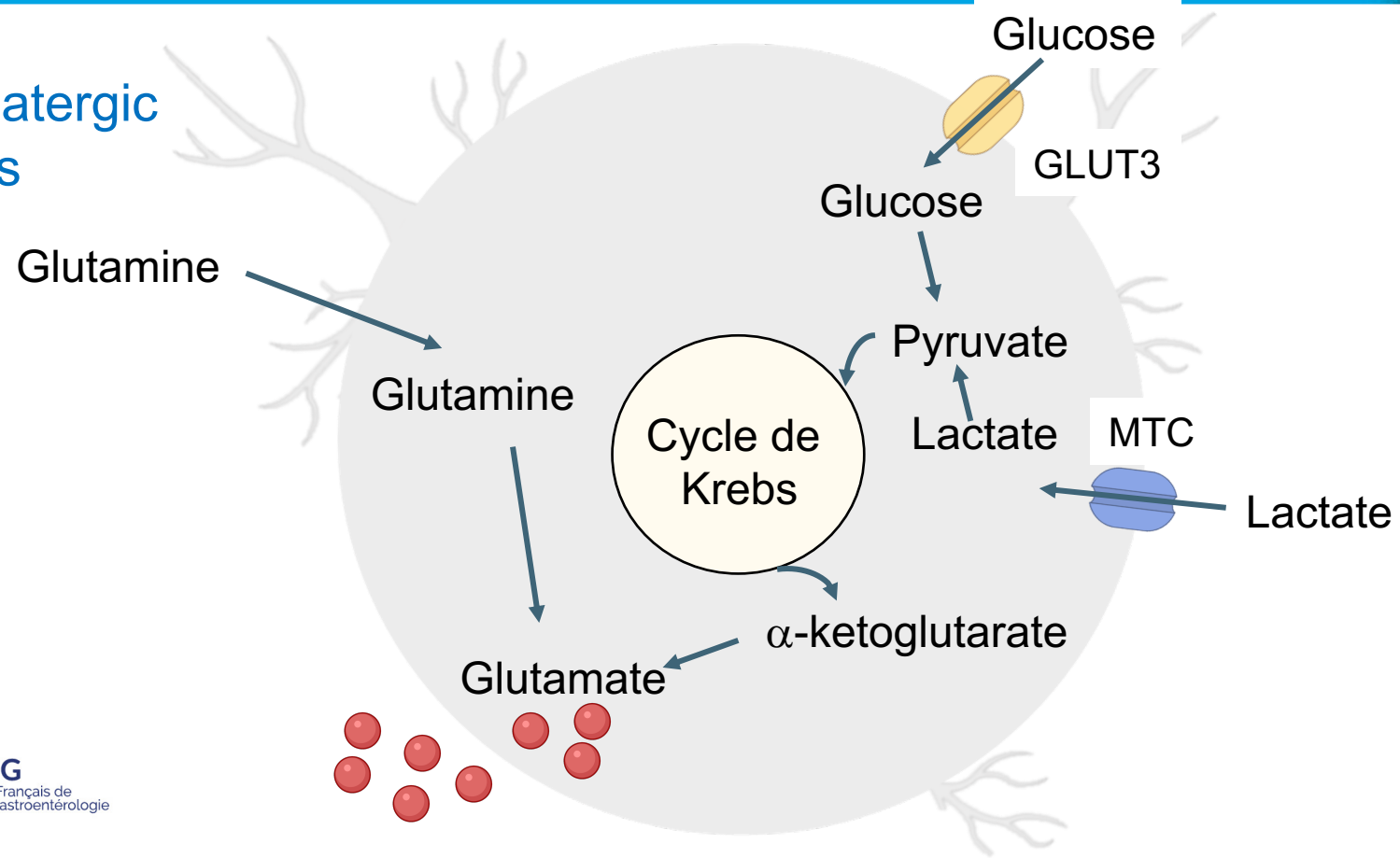
2. Glutamine et Jonctions serrées



2. Glutamine et douleur



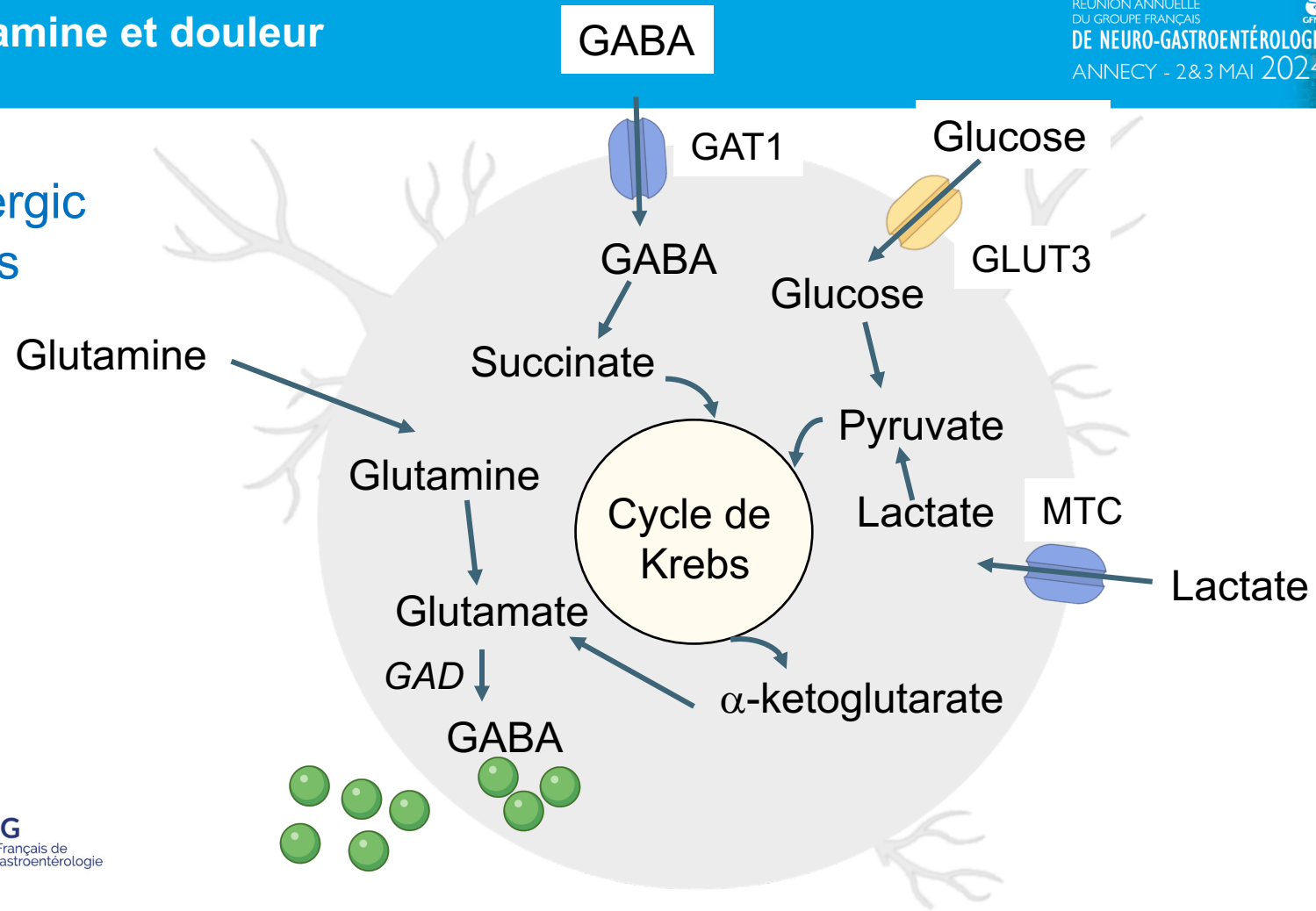
Glutamatergic
neurons



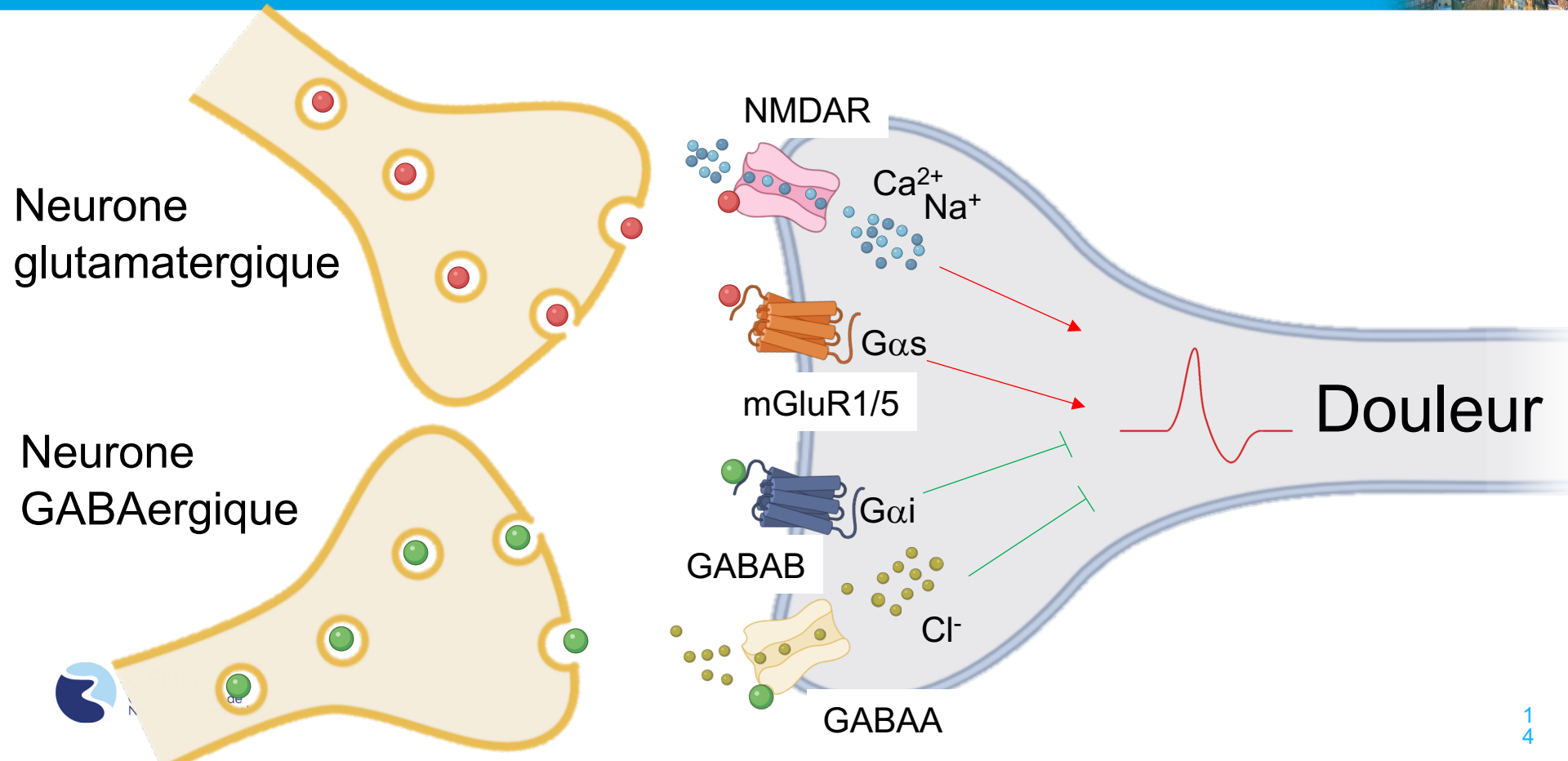
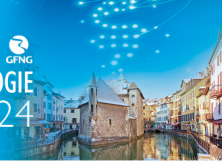
2. Glutamine et douleur



GABAergic
neurons



2. Glutamine et douleur

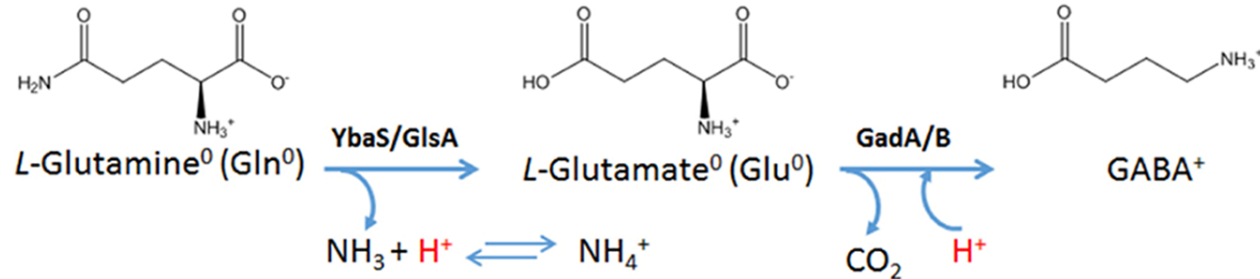
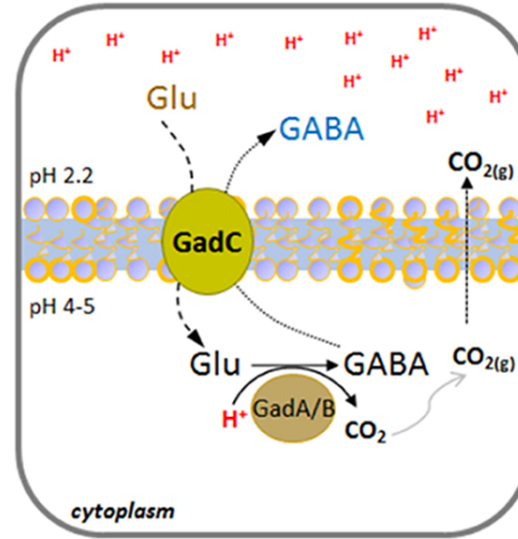


2. Glutamine et Microbiote

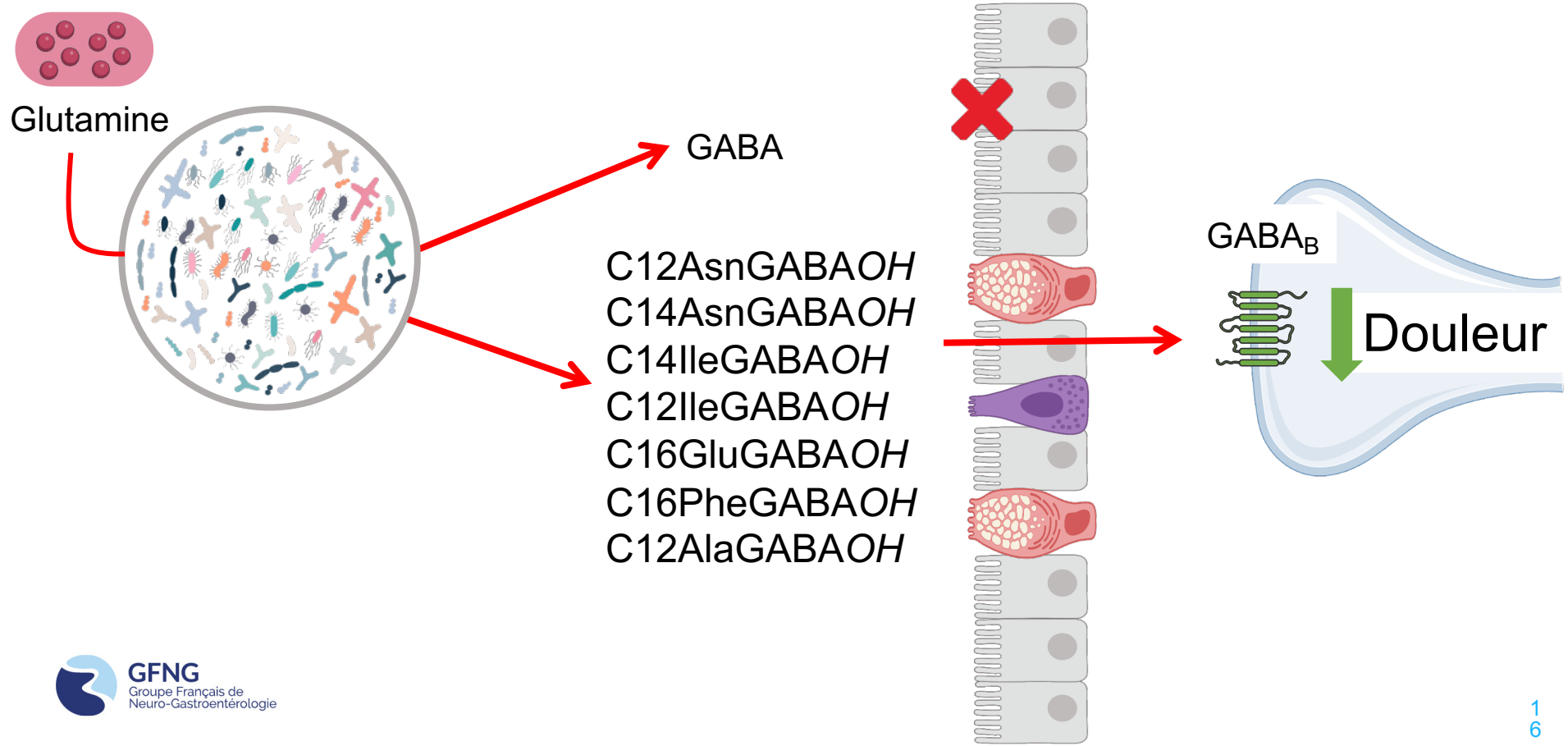


Lactobacillus namurensis
Lactobacillus paracasei
Lactococcus lactis
Lactobacillus brevis
Lactobacillus futsaii

...



2. Glutamine et Microbiote



2. Glutamine et Microbiote



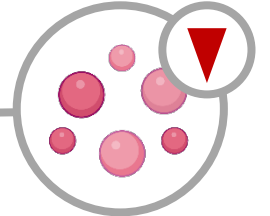
Modèle murin de SII



visceral hypersensitivity



dysbiosis



C14AsnGABA
C12AsnGABA



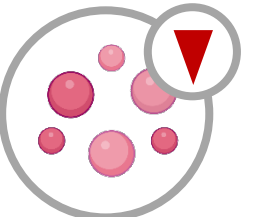
C14AsnGABA



visceral pain



dysbiosis

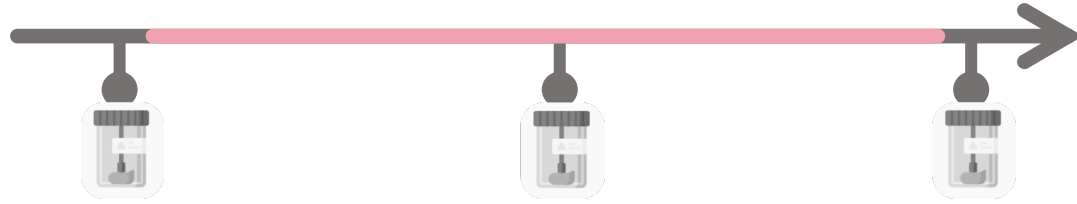


C16LeuGABA
C12AsnGABA

2. Glutamine et Microbiote



Glutamine treatment



1

Répondeur

Non-répondeurs



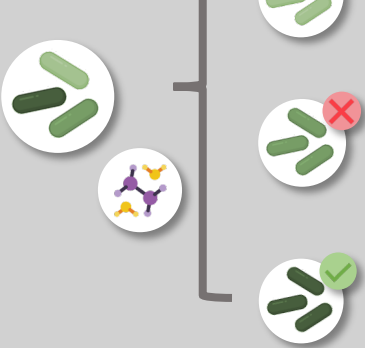
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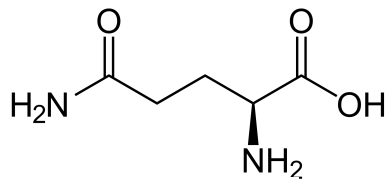
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5



2. Conclusions



Glutamine

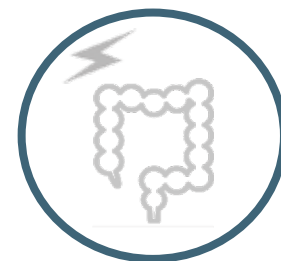
Métabolisme énergétique

Jonctions serrées

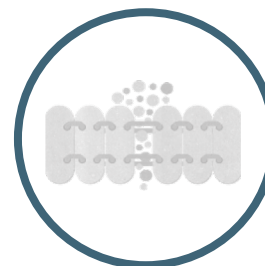
Activation neuronale

Mucus

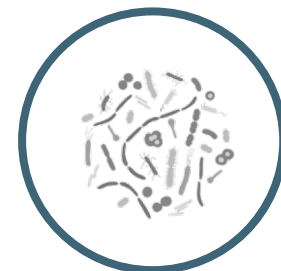
Microbiote



Douleur viscérale



Perméabilité



Dysbiose

2. Perspectives

