1.0

# Chapitre 2 : Intégration de l'écrit

2023-2024

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# Table des matières

# Objectifs

A la fin de ce chapitre l'étudiant sera capable de :

- Réaliser une tâche de réinvestissement
- Comprendre et rédiger des résumés à partir d'articles dans le cadre des démarches d'écriture et de production
- Améliorer (correction et révision des textes écrits)
- Développer de la capacité d'écrire et de produire des textes scientifiques

# Cours 5 : Prokaryotes and Eukaryotes

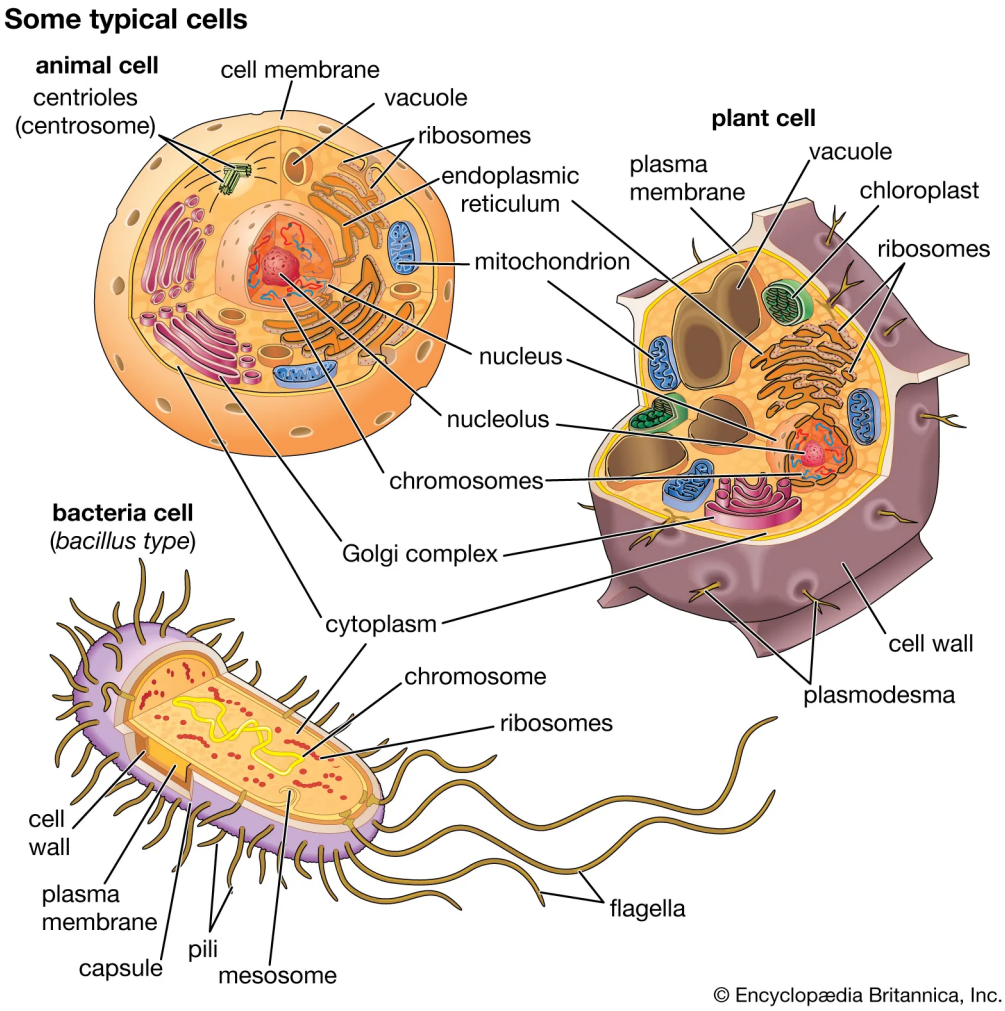
**Learning Objectives**

1- Identify features common to all cells

2- Contrast the composition and size of prokaryotic and eukaryotic cells

**Prokaryotes and Eukaryotes**

cours 5.pdf (cf. cours 5)




*Some typical cells*

## A. Cours 5

cours 5.pdf (cf. cours 5)

# Cours 6 : Structure and Function of Bacterial Cell Walls

**Learning Objectives :**

1-What are the basic characteristics and functions of the cell wall in Bacteria?

2-What is the basic unit structure of peptidoglycan? What components are present and how do they interact? Be able to diagram peptidoglycan and its' components.

Cours 6 MCQ.pdf (cf. Cours 6 MCQ)

## A. Cours 6

Cours 6 MCQ.pdf (cf. Cours 6 MCQ)

# Cours 7 : Rising antibiotic resistance

III

**Antibiotic resistance is once again on the rise after declines in the pandemic, with more dangerous strains of bacteria spreading in communities and hospitals.**

Antibiotic resistance or antibiotic resistance is the ability of a bacteria to resist the effects of antibiotics. It is one of the forms of drug resistance, different from the phenomenon of antibiotic tolerance

Cours 7 microBiol.pdf (cf. Cours 7 microBiol)

*Antibiotic resistance*

## A. Cours 7

Cours 7 microBiol.pdf (cf. Cours 7 microBiol)

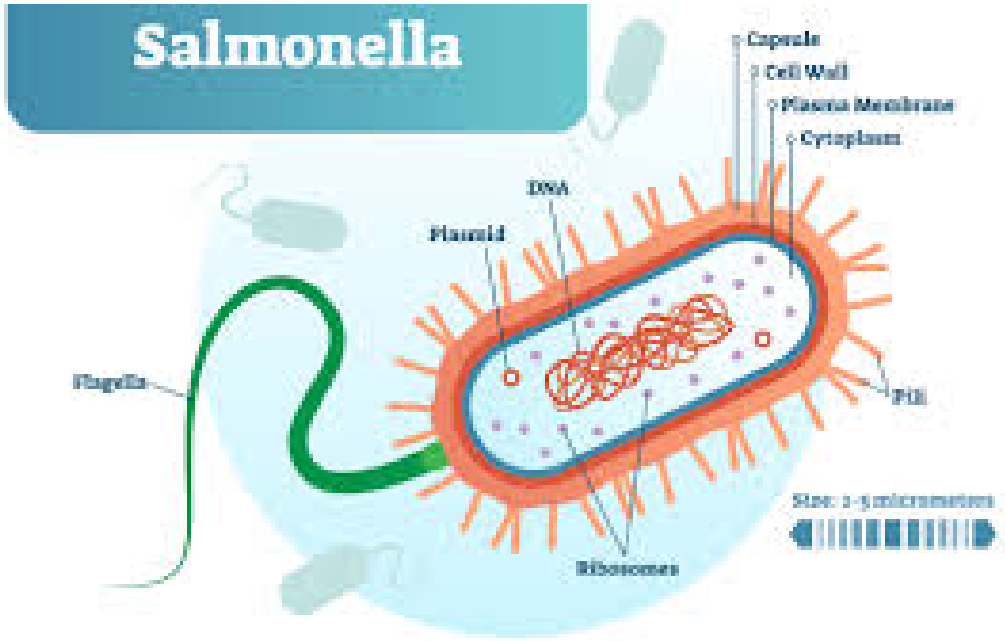
# Cours 8 : Salmonella

IV

**Learning Objectives**

-Characteristics of salmonella bacteria.

cours 8.pdf (cf. cours 8)




*Salmonella*

## A. Cours 8

cours 8.pdf (cf. cours 8)

# Cours 9 : Botulism

V

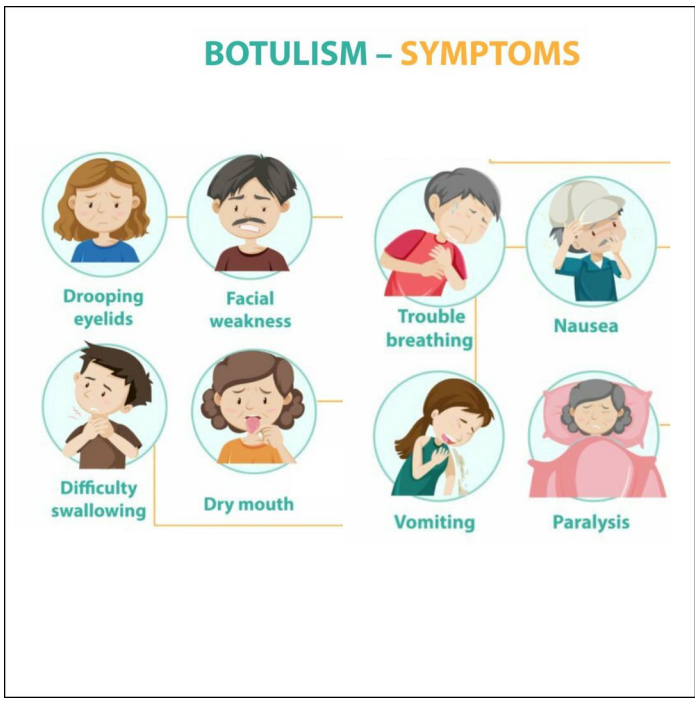
**Learning Objectives :**

1-The risks of getting botulism

2-Who is most at risk

3-The risks of complications

Cours 9.pdf (cf. Cours 9)




*Botulism*

## A. Cours 9

Cours 9.pdf (cf. Cours 9)

# TD 5

VI

TD 5 MCQ.pdf (cf. TD 5 MCQ)

## A. TD 5

TD 5 MCQ.pdf (cf. TD 5 MCQ)

# TD 6

VII

TD n°6 MCQ.pdf (cf. TD n°6 MCQ)

## A. TD 6

TD n°6 MCQ.pdf (cf. TD n°6 MCQ)

# Exercice : Justifications

VIII

Question

[*Solution n°1 p 15*]

What are the main differences between Gram positive and Gram negative?

# Système de sortie

IX

## A. Exercice : Clostridium botulinum

[*Solution n°2 p 15*]

*Clostridium botulinum*

*Botulinum toxin is considered the most powerful poison to date. Botulinum toxin A is the most active. The lethal dose in an adult male is estimated at 70 µg orally. In general, the single ingestion of a few grams of food containing botulinum toxin is sufficient to trigger botulism. In a newborn or young child, the ingestion of ten to a hundred spores is capable of causing toxic infection, i.e. the quantity of spores that could be contained in a few mg of a food such as honey or a few dust. Food raw materials are contaminated with neurotoxigenic Clostridium bacteria/spores from the environment. Certain foods can be contaminated through spices or condiments (pepper, garlic, etc.). The conditions of preparation and storage of foodstuffs then determine possible germination of spores, growth of bacteria as well as toxinogenesis. The presence of botulinum toxin in low-acid manufactured foods is often due to a lack of control of the canning process (in particular cooking/sterilization temperature, pH, aw, recontamination after heat treatment). Botulinum toxin is stable in foods over a long period of time. Foods at risk for the consumer are preserved foods with low acidity.*

*Choose the wrong answers:*

*1- Botulinum toxin is not considered a poison.*

*2- orally, a dose of 70 is considered a lethal dose*

*3- Botulism does not occur directly following the ingestion of a few grams of food containing botulinum toxin.*

*4- All foods are contaminated through spices or condiments.*

*5- The presence of botulinum toxin in low-acid manufactured foods is linked only to pH and sterilization*

### Translate what follow into French

*Translate what follow into French*

*In general, the single ingestion of a few grams of food containing botulinum toxin is sufficient to trigger botulism.*

# Conclusion

Microbiology is a discipline that has numerous applications in food and bio-products, as well as in health and the environment. Microorganisms can be valuable tools or constitute serious dangers, their study is of the highest interest both on a fundamental and applied level. Know-how in these areas combined with solid fundamental knowledge can promote the skills required to make the most of microorganisms or provide solutions to the many problems they can cause. The issues related to the control of microorganisms in the food, water, environment, cosmetics and health industries require the training of competent executives in the field of microbiology.

The trained executives will be able to meet the needs of laboratories and companies concerned in the fields of the environment, human health, agri-food industries and the valorization of biological resources.

# Solution des exercices

## > Solution n°1 *(exercice p. 12)*

*he main differences between Gram positive and Gram negative*

Gram-positive bacteria show blue or purple after gram-staining in a laboratory test. They have thick cell walls. Gram-negative bacteria show pink or red on staining and have thin walls. They release different toxins and affect the body in different ways.

## > Solution n°2 *(exercice p. 13)*

**Translate what follow into French**

En général, l'ingestion de quelques grammes d'aliments contenant de la toxine botulique suffit à déclencher le botulisme.