

INNATE & ADAPTIVE IMMUNITY

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Objectives

1. Define the Immunology.
2. Types of Immunity (**Innate** and **Adaptive**).
3. Outline components of **Innate** and **Adaptive** Immunity.
4. Differentiate between **Innate** and **Adaptive** Immunity.



INTRODUCTION

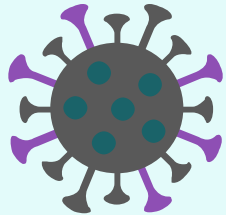


Why is immunology important?

- The study of immunology is critical to human and animal health.



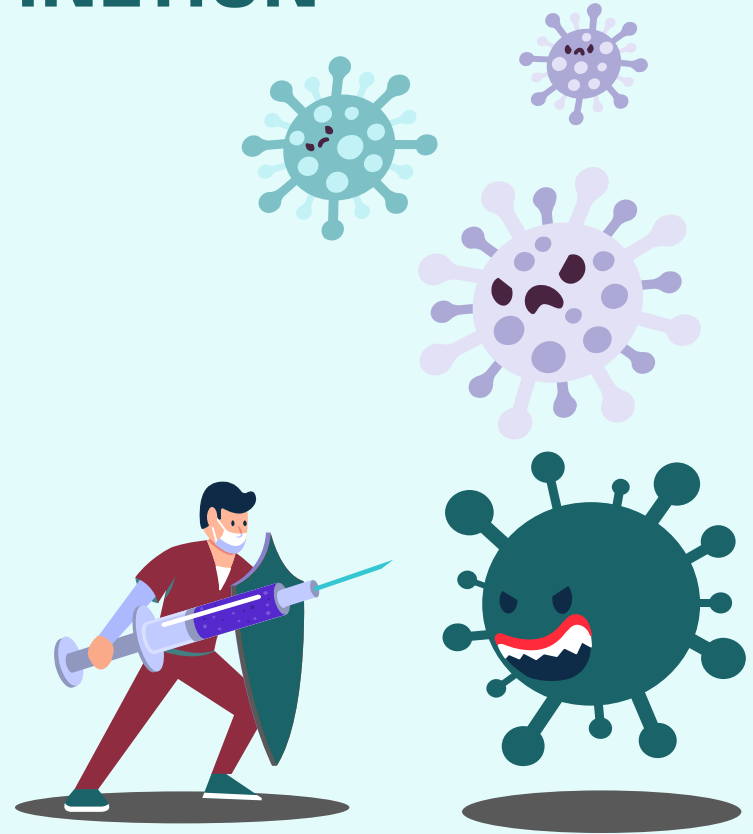
- It is at the cutting edge of medical science and has led to some key healthcare advances of recent times, including vaccination and cancer immunotherapy.



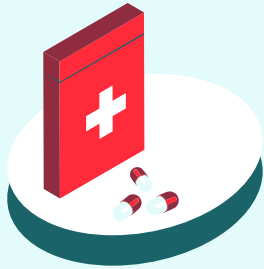
IMMUNOLOGY DEFINITION

Immunology

The study of the immune system in both healthy and diseased states. It includes the study of how the body fights infections, and the development of medical interventions to treat and prevent diseases.



INNATE AND ADAPTIVE IMMUNITY



Innate immunity (since birth)

- It's the immediate protective response of the immune system.



Adaptive immunity (acquired)

- It's the immune response against a specific antigen.

IMMUNITY

INNATE IMMUNITY

Physical Barriers



Chemical Barriers

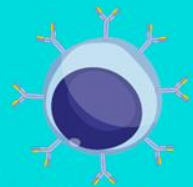


Cellular Defences



ADAPTIVE IMMUNITY

Active Immunity



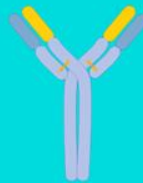
Natural



Vaccination



Passive Immunity



Maternal



Artificial



DIFFERENCE BETWEEN **INNATE** AND ADAPTIVE IMMUNITY



Innate immunity (since birth)

- Non-specific.
- Antigen independent.
- Response to repeat infection is identical to the primary response.
- Predominates in the early stage of infection.
- Max response in hours.
- Limited and fixed diversity, no immunologic memory.



Adaptive immunity (acquired)

- Specific.
- Antigen dependent.
- Response to repeat infection is much more effective and rapid than the primary response.
- Predominates in the middle and late stages of infection.
- Max response in days.
- Highly diverse, immunologic memory develops.

CONCLUSION



REFERENCES

- ❖ 1. Gleichmann N, Steward K. Innate vs Adaptive Immunity . 2022 from Technology Networks. [cited 2 June 2022]. <https://www.technologynetworks.com/immunology/articles/innate-vs-adaptive-immunity-335116>
- ❖ 2. Gwyer E. 2022. Why is immunology important? Spotlight on: Immunology .RSB. [cited 2 June 2022]. <https://thebiologist.rsb.org.uk/biologist-features/spotlight-on-immunology>
- ❖ 3. Herwald H, Egesten A. Cells of Innate and Adaptive Immunity: A Matter of Class?. [cited 2 June 2022]. Journal of Innate Immunity. 2017;9(2):109-110.



THANKS!

Do you have any questions?

