

# Immunology



What is the use of studying the Immune System and its biology?

(Or)

What are the applications of studying the immune system and its biology?



Studying the organization of Immune system & its biology has the **similar applications** as **Anatomy in Medicine**.

The student gets an idea of **where, and what each organ** involved in **Immune system does...**

This has **profound impact** in the subsequent **understanding** of **Immune responses** in various **animal & human systems**.

## What are the uses of studying humoral immune system?

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Studies on humoral system lays the ground work for **Antibody Engineering..**  
Thereby, profoundly impacting **Antibody Therapeutics.**

**Theories regarding clonal diversity & generation of antibody diversity which cannot be proven experimentally at present have profound applications in Immunocomputing.**

## What are the practical application of Antigen-antibody interactions and Hypersensitivity Reactions?

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Proper knowledge of **Ag-Ab interactions** helps in **practical non-therapeutic aspects/application** of Antibodies, *viz.*, how antibodies can be used in **Diagnostics...**

In addition, such information has profound impact on **Antibody Therapeutics**.

## How does studying Cell-mediated Immunity (CMI) aid humanity?



Although this aspect of immunology is **still in developmental/conceptual stages**, CMI has **direct applications** in using T-cells/Lymphocytes for **controlling immune responses**.

What are the uses of studying Transplantation immunology?

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Although many aspects of this part of immunology are **difficult to implement in many scenarios**, studies on transplantation prepares the student for a career as **Transplantation Immunologist** and **allied services**.

## Overview of applications of Immunology:

Applications of Immunology include

1. Vaccines
2. Diagnostic tests
3. Transplantation
4. Efficient management of diseases
5. Therapeutic Antibodies
6. Antibody Engineering
7. **“Immunocomputing”**
8. Psycho-Neuro-Immunology & many more ...

Additional applications of Immunology are described in various internet sources.

(Sources: 1. Amy Warena Czura. Practical Applications of Immunology.  
<http://www2.sunysuffolk.edu/czuraa/BIO244LectureMaterials/BIO244Chapter18Slides.pdf> Accessed online on 16 June 2015)



# Thank You!

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