

# The third line of defense

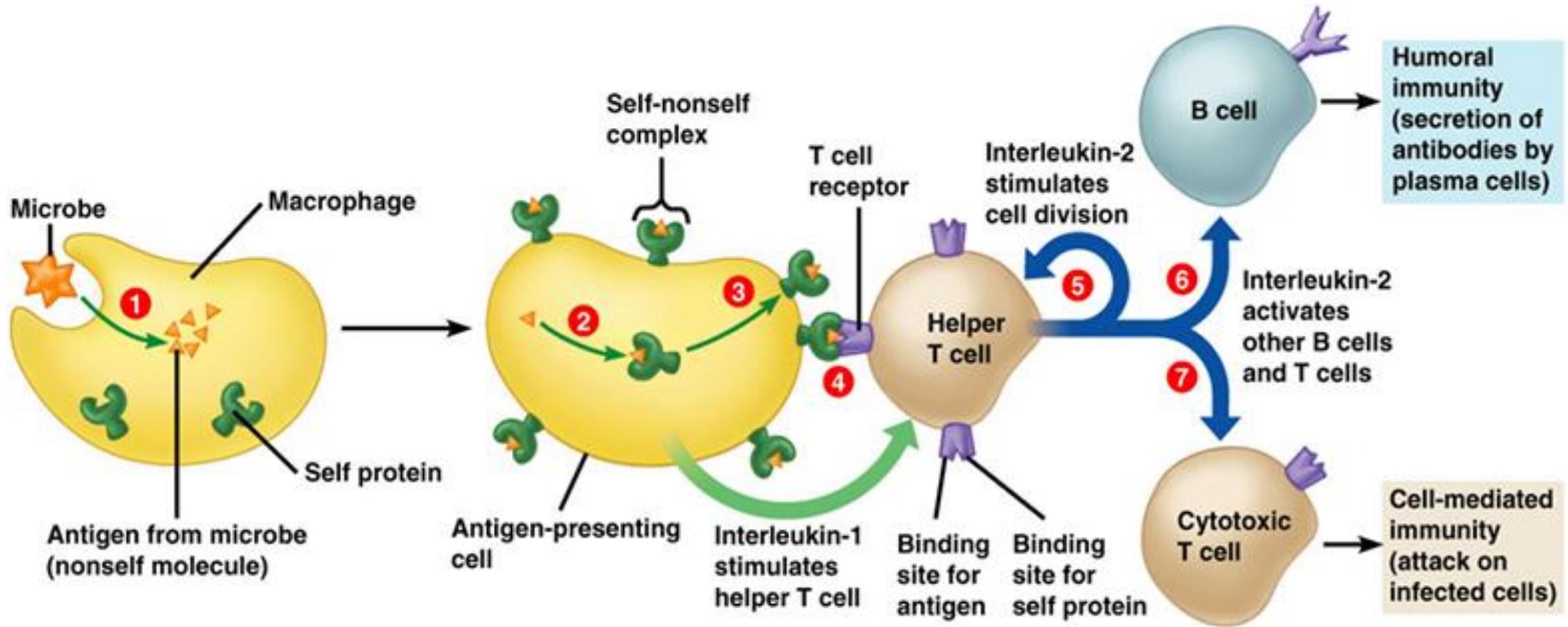
--aims at eliminating specific pathogens that have been encountered by the immune system previously

When the first two line of defense of the body can not prevent the infection, the immune system acts to eliminate the infectious agent and prevent the body from infection

## Specific immunities

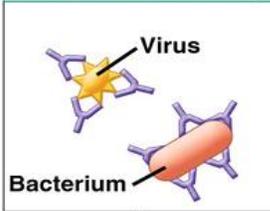
- B and T lymphocytes
- Specificity and memory

# Antibody mediated and Cell mediated immunity

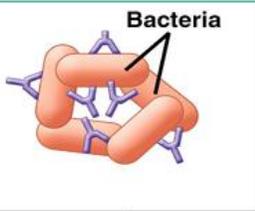


Binding of antibodies to antigens inactivates antigens by

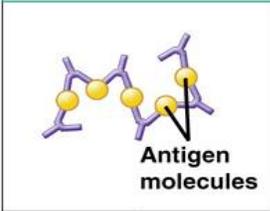
Neutralization  
(blocks viral binding sites; coats bacteria)



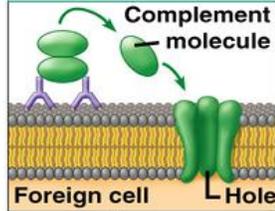
Agglutination of microbes



Precipitation of dissolved antigens

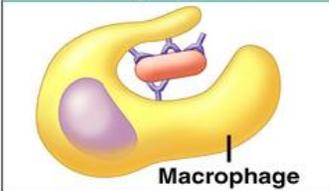


Activation of complement system



Enhances

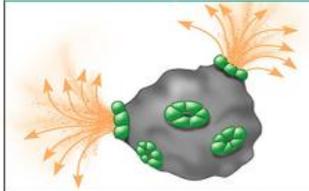
Phagocytosis



Macrophage

Leads to

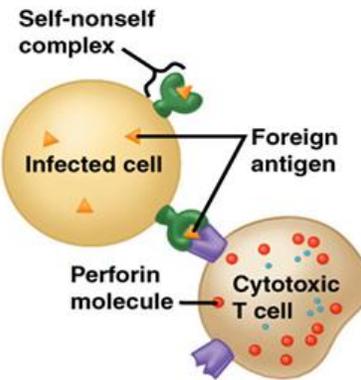
Cell lysis



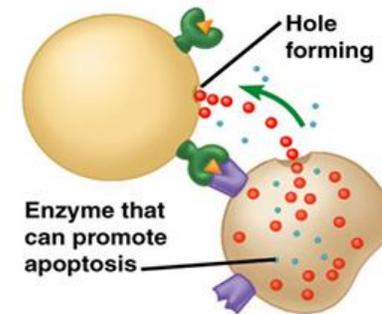
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## Antibody-mediated immunity

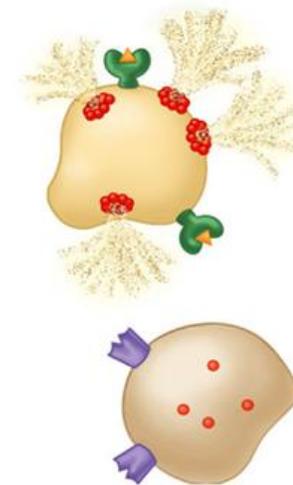
1 Cytotoxic T cell binds to infected cell



2 Perforin makes holes in infected cell's membrane and enzyme enters



3 Infected cell is destroyed

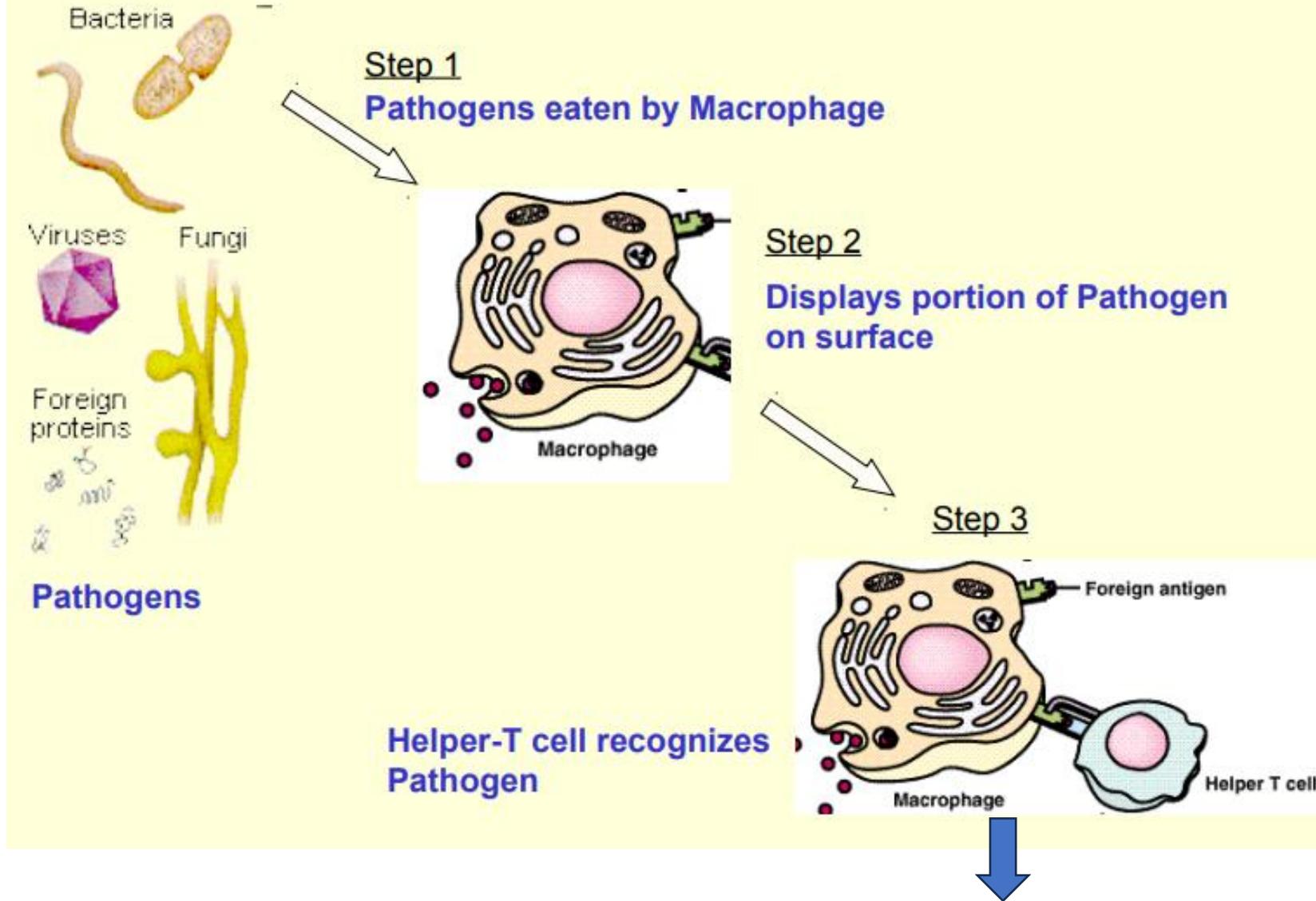


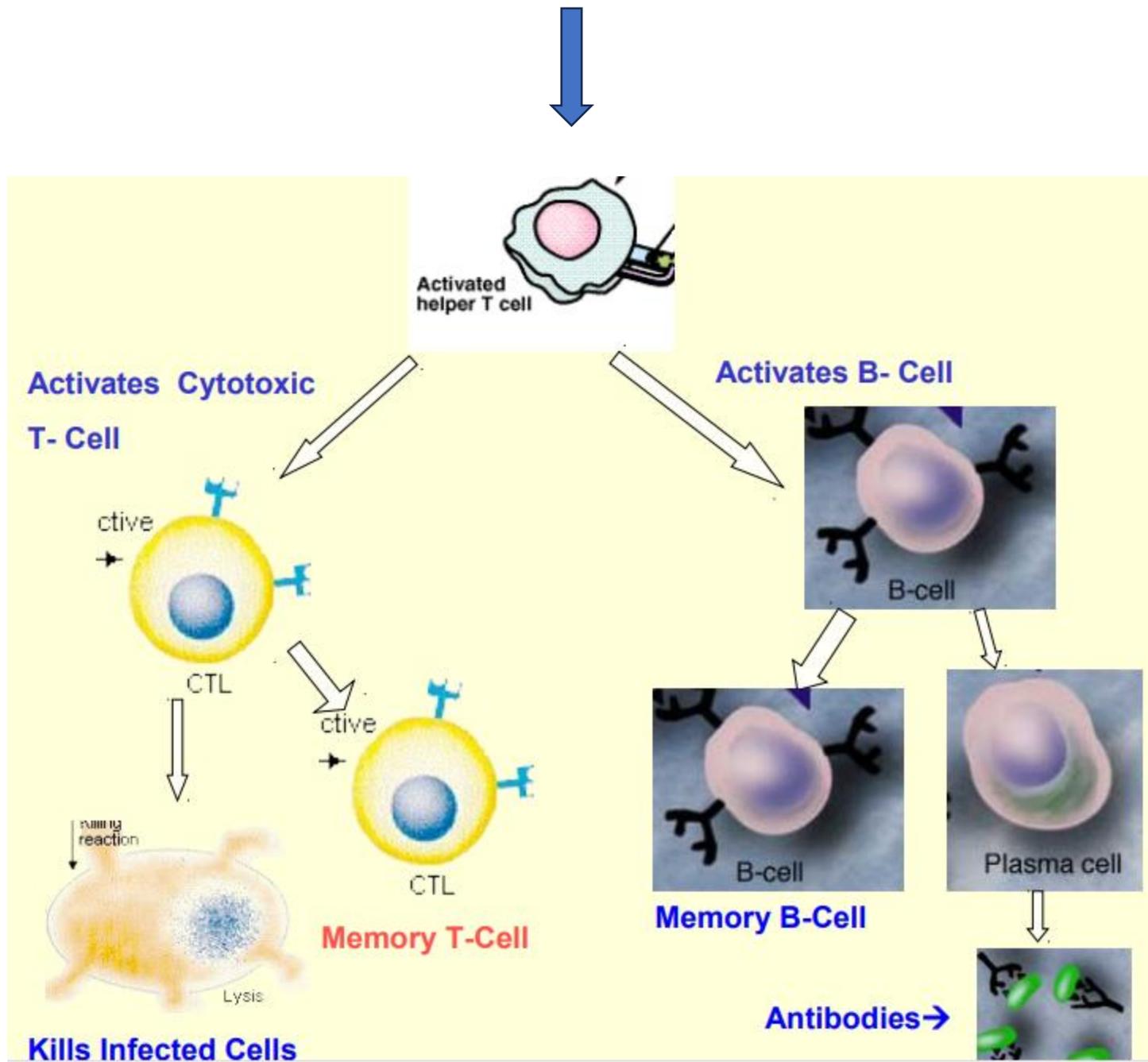
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## cell-mediated immunity

# Antibody mediated and Cell mediated immunity

## The Pathway of Specific Immune Response





# B lymphocytes and antibody mediated immunity

