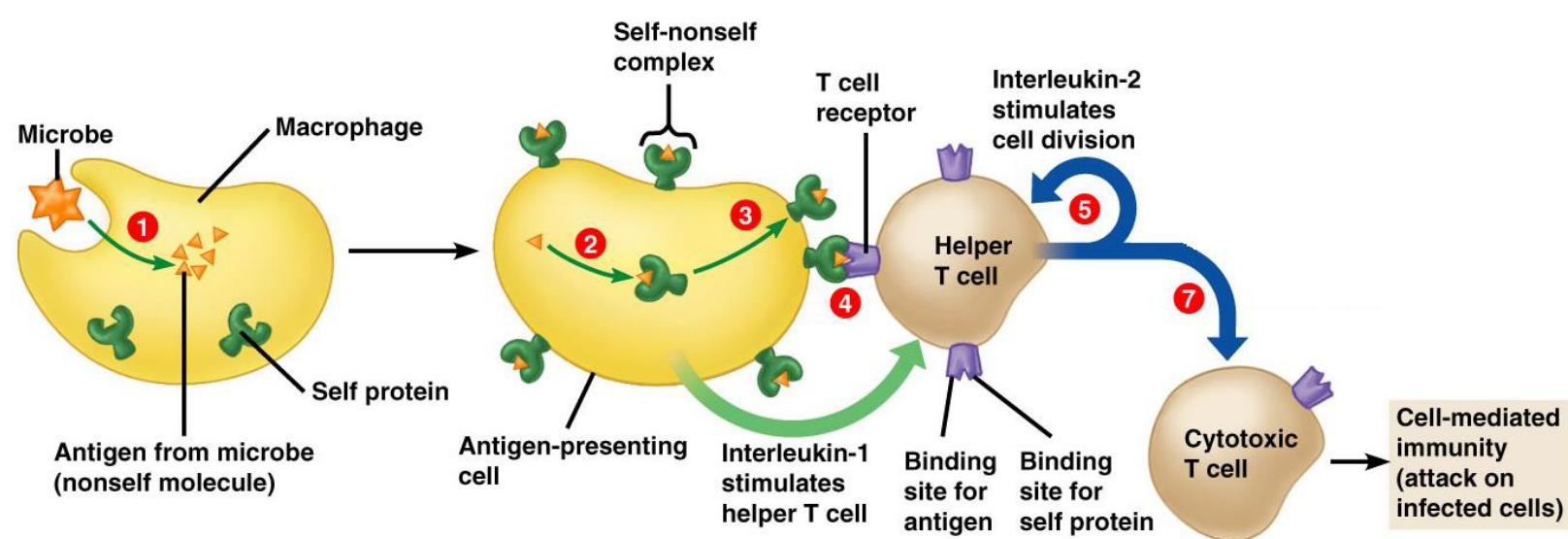


Mind Map on Adaptive Immunity

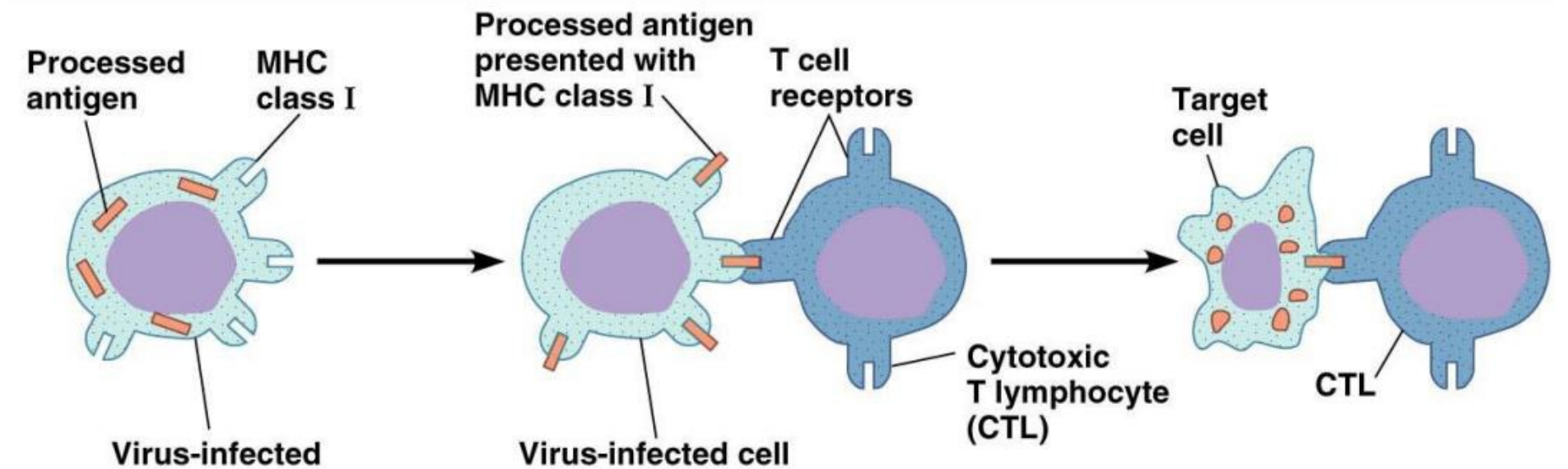


ADAPTIVE IMMUNITY

Activation of Cytotoxic T cells

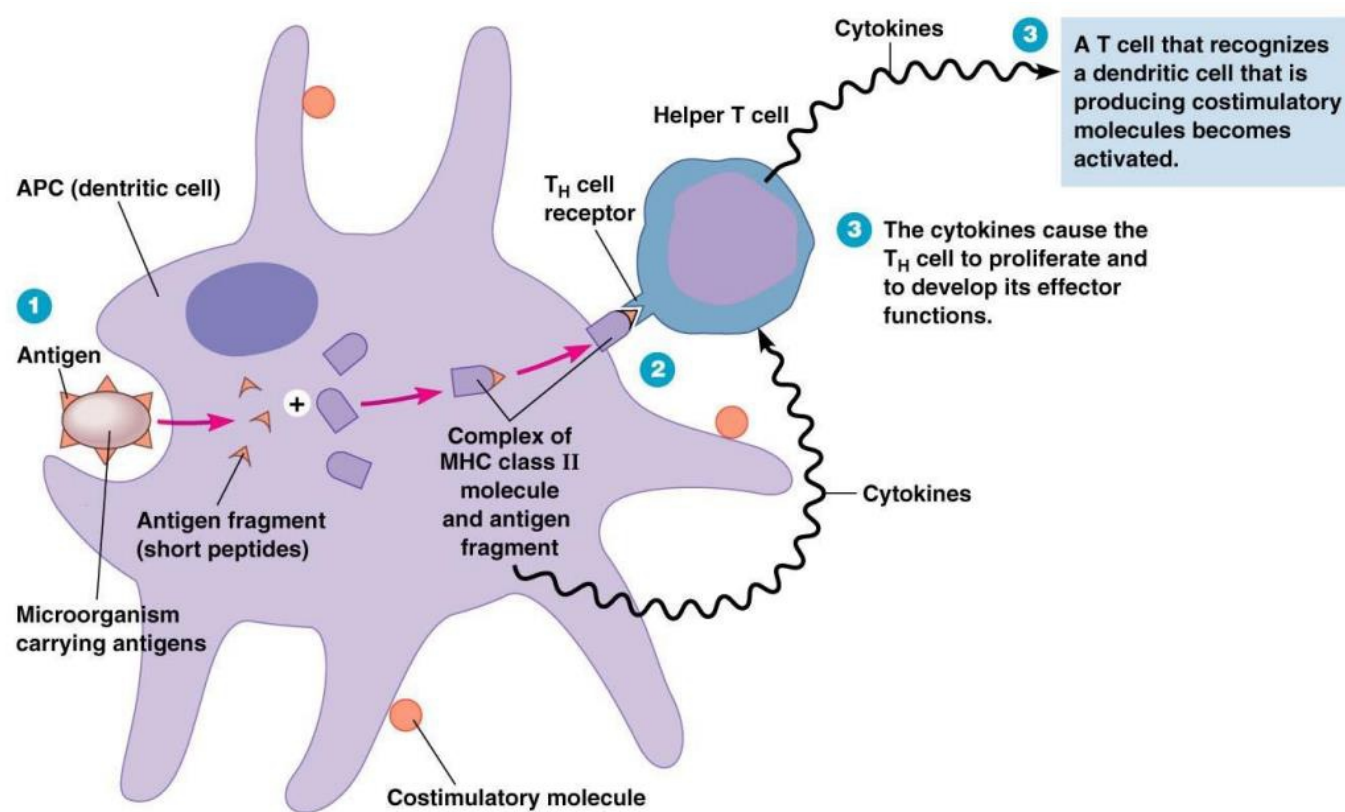


Presentation of foreign antigen to CTL



- 1 A normal cell will produce endogenous antigens that will not trigger a response by a cytotoxic T lymphocyte (CTL), but a virus-infected cell or a cancer cell produces abnormal endogenous antigens.
- 2 The abnormal antigen is presented on the cell surface in association with MHC class I molecules. CD8 cells with receptors for the antigen are transformed into CTLs.
- 3 The CTL induces destruction of the virus-infected cell by apoptosis.

Processing of Foreign antigen by APCs



Cell-mediated immunity

Immune response mediated by cells

Protects against fungi, viruses, and facultative intracellular bacterial pathogens

Mediates delayed (type IV) hypersensitivity

Only T-cell-dependent antigens lead to cell-mediated immunity

Both CD4+ and CD8+ T cells are involved

Provides immunological surveillance and immunity against cancer

Participates in rejection of homografts and graft-versus-host reaction

Humoral immunity

Immune response mediated by antibodies

Protects against extracellular bacterial pathogens and viruses infecting respiratory or intestinal tract; and prevents recurrence of viral infections

Mediates immediate (types I, II, and III) hypersensitivity

B cells directly bind soluble antigens resulting in production of antibodies

Only T_H cells are involved

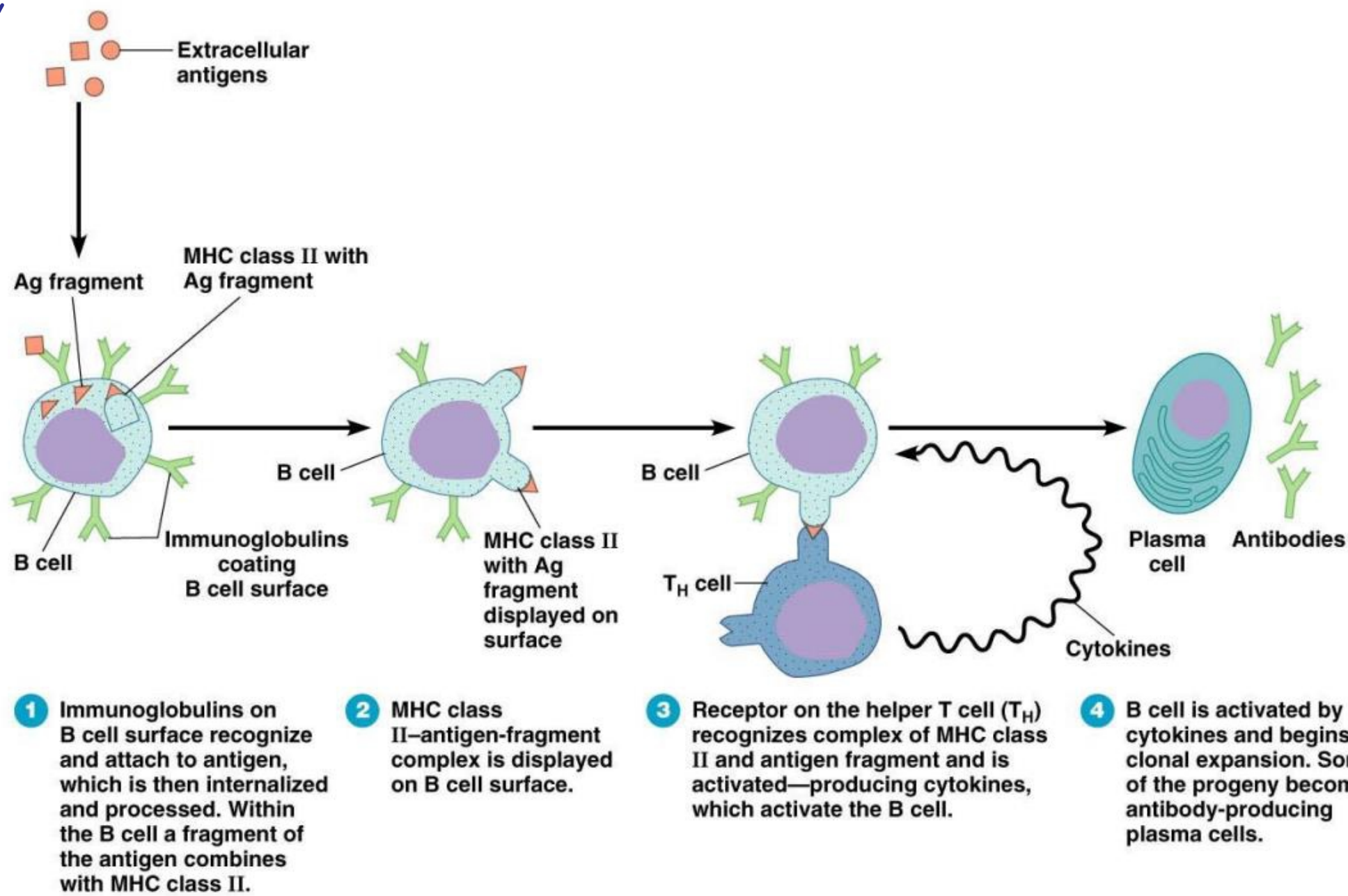
No major role in immunological surveillance

May be involved in early graft rejection due to preformed antibodies

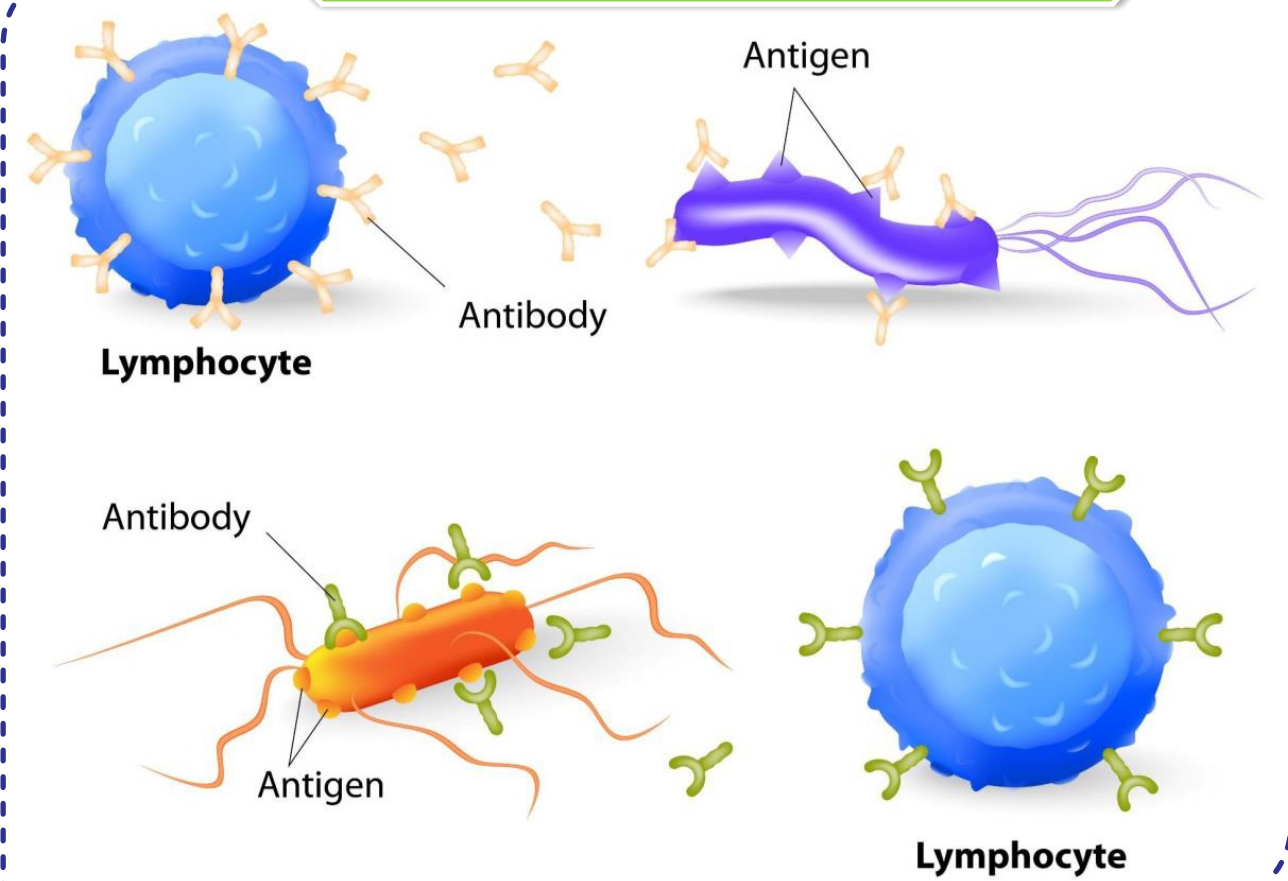
CELL-MEDIATED IMMUNITY

HUMORAL IMMUNITY

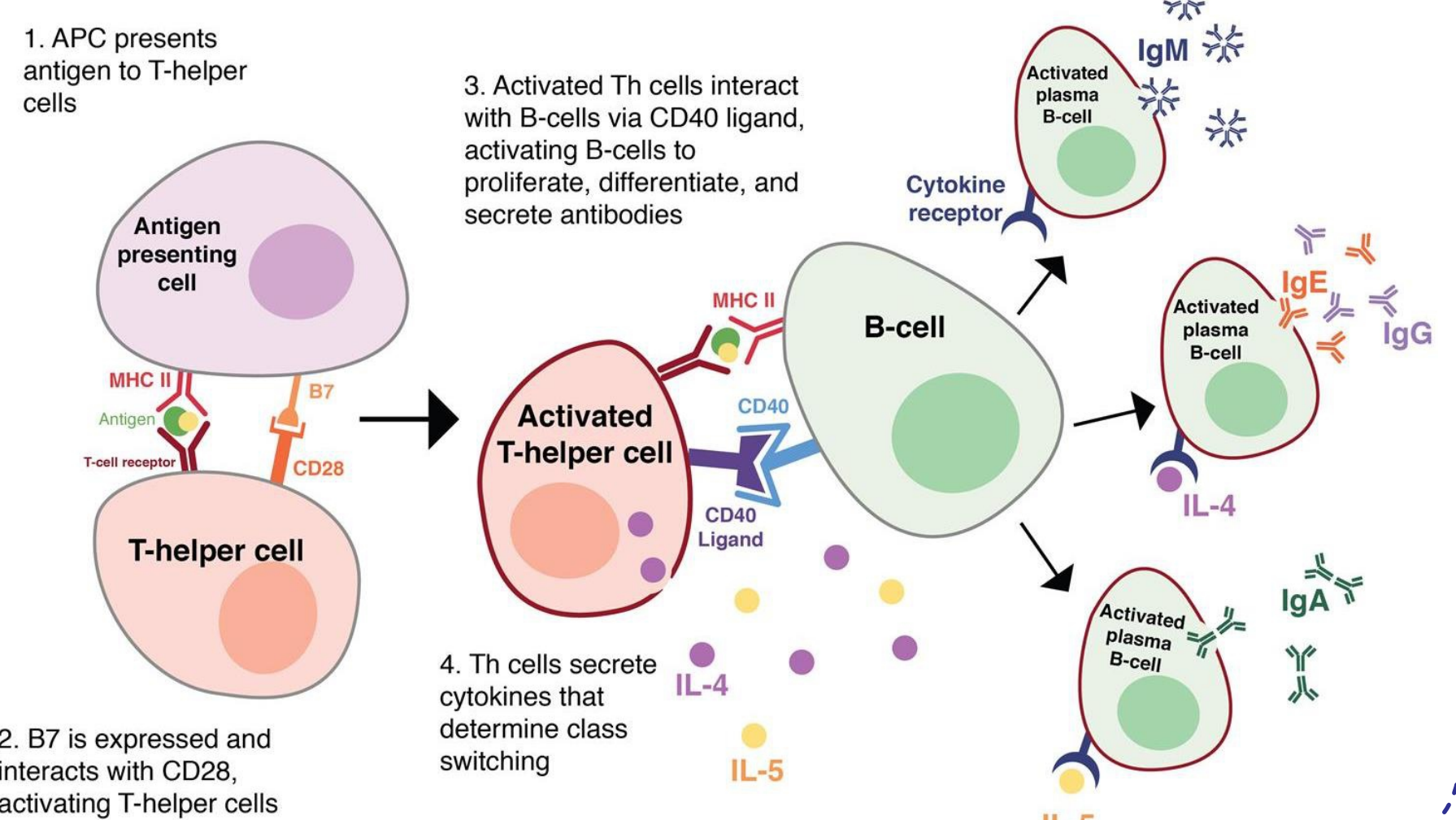
Formation of Antibodies specific to Antigen



Components of Humoral Immunity



Class Switching for Antibodies



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