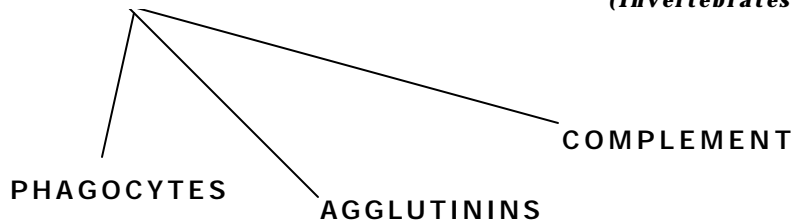
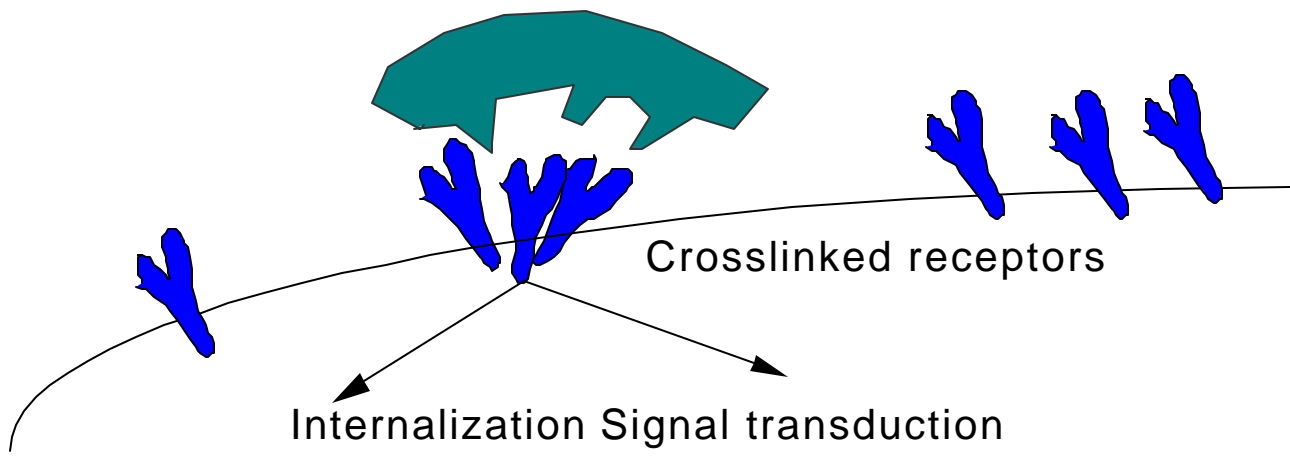
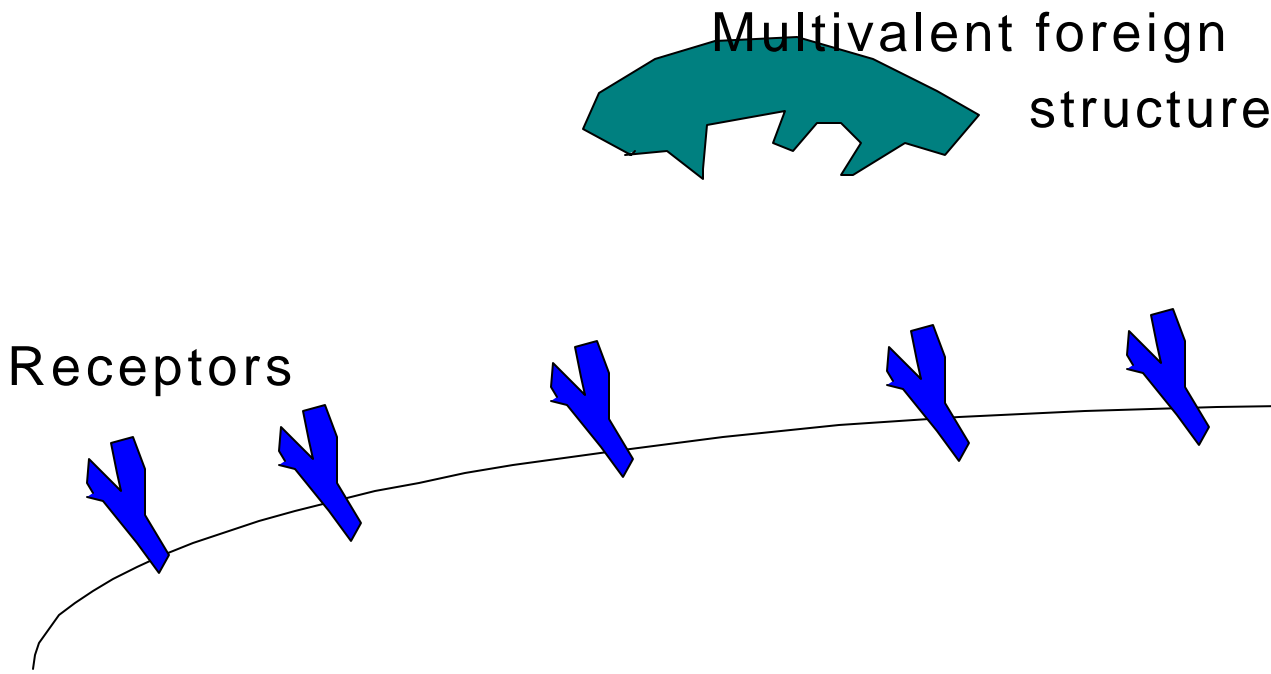


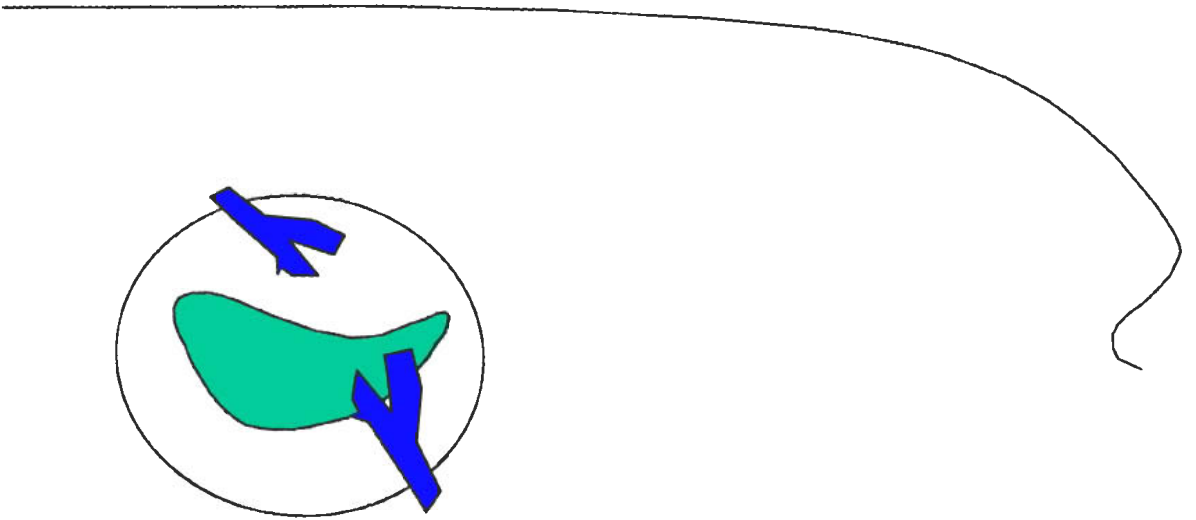
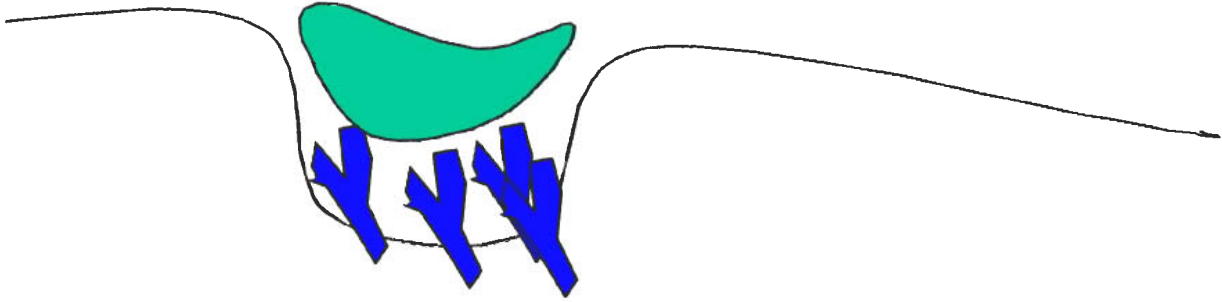
INNATE IMMUNITY

(Invertebrates and vertebrates)



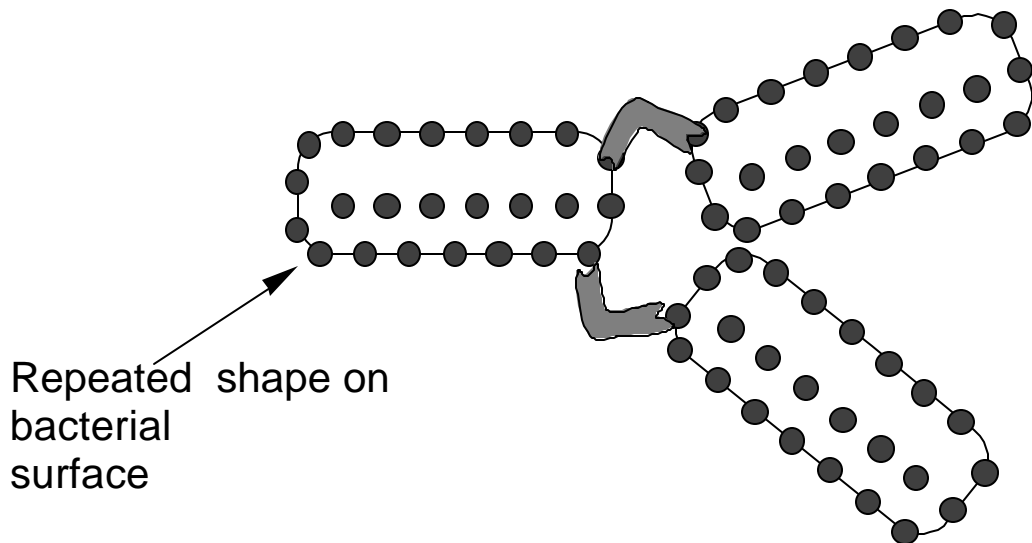
- 1. Must discriminate between self and non-self**
- 2. Protection by neutralization or destruction of non-self structures**





AGGLUTININS

- Neutralize
- Opsonize
- Fix Complement
- Discriminate between self and non-self
- Usually lectins



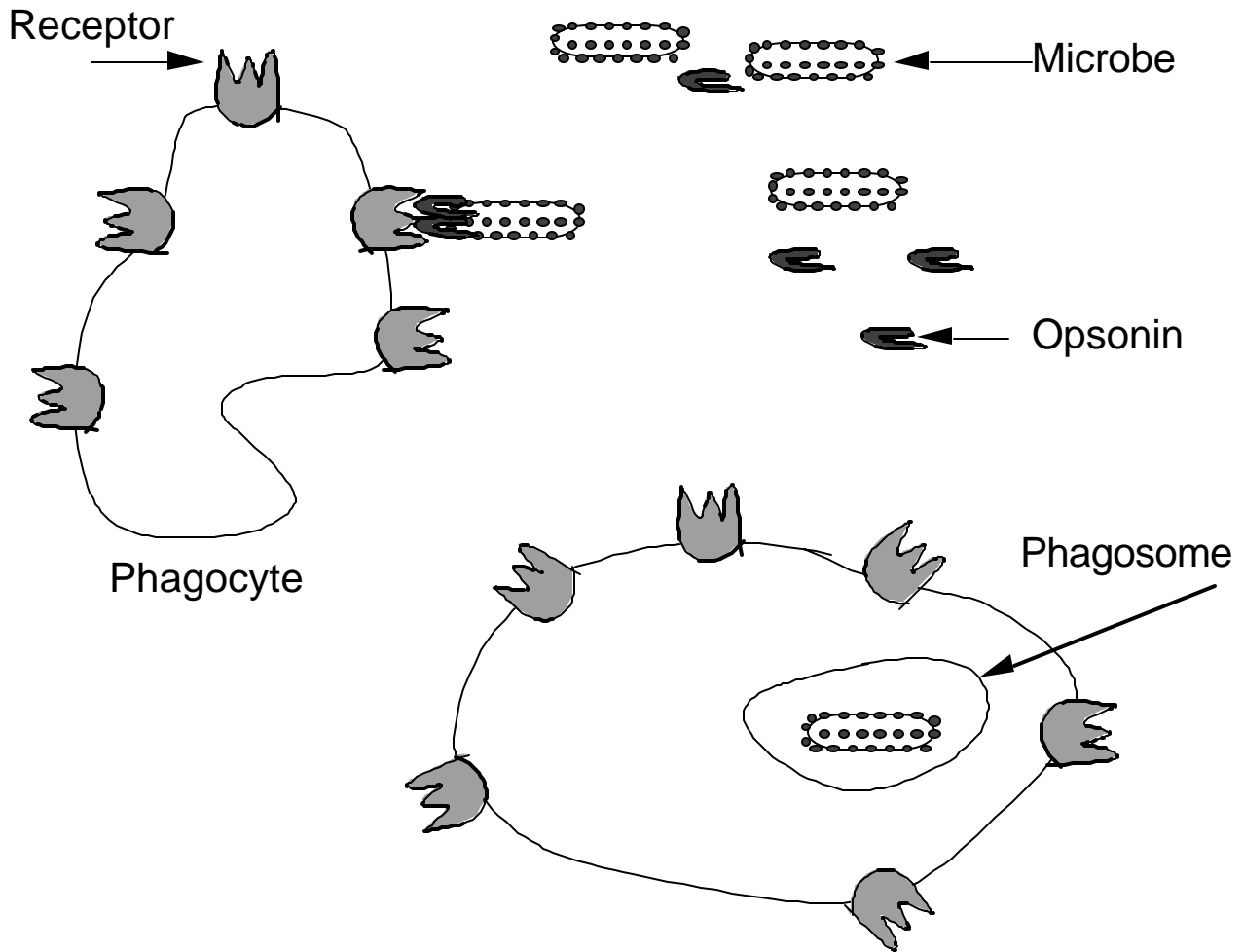
Bivalent protein with binding sites for repeated shape on bacterial surface.



A specific shape which can be recognized by the immune system

may also be called an "epitope" or an "antigenic determinant"

OPSONINS AND OPSONIZATION



Pattern
Recognition
Receptors

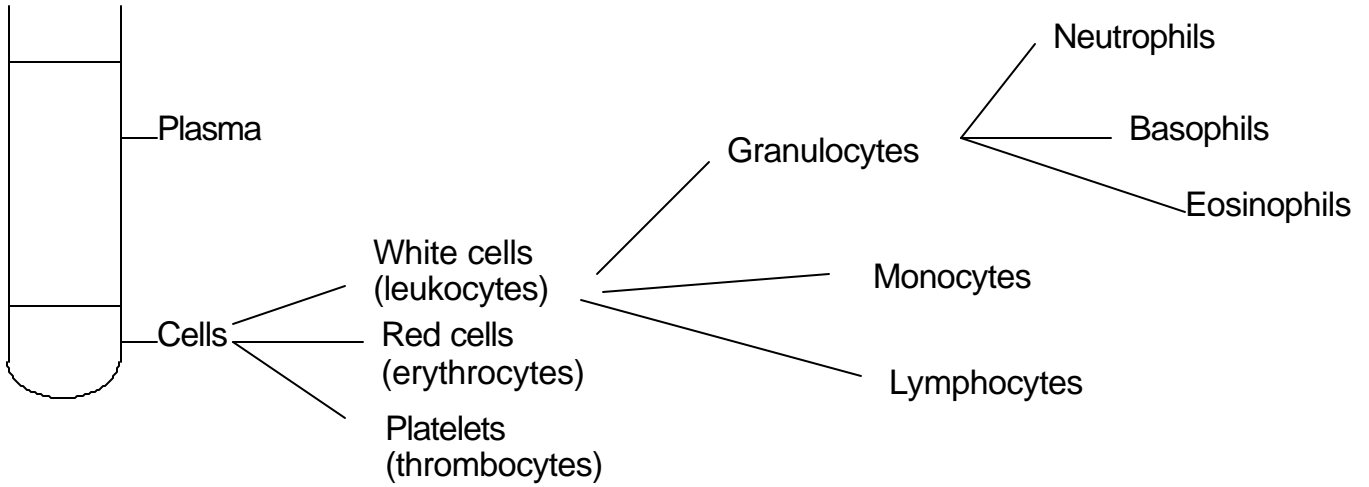
SPECIFIC/ADAPTIVE IMMUNITY

Generation of Diversity

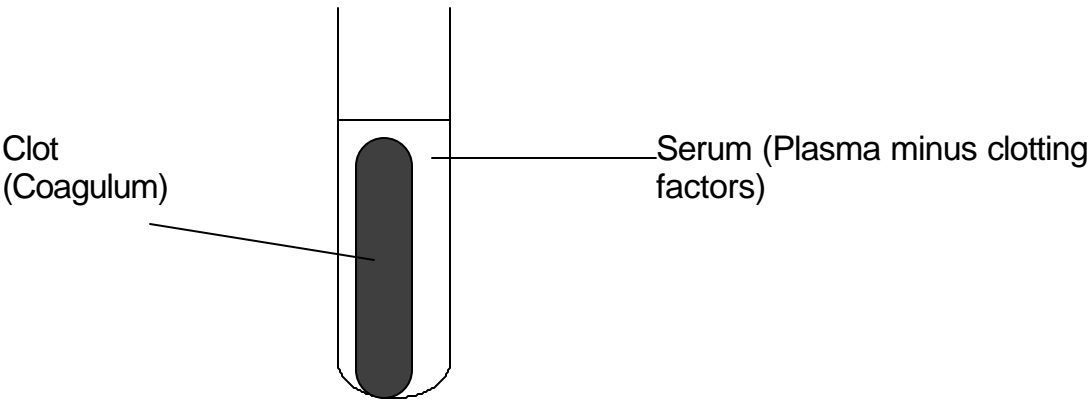
Self/non-self recognition

Memory

Anticoagulated (non-clotted) blood

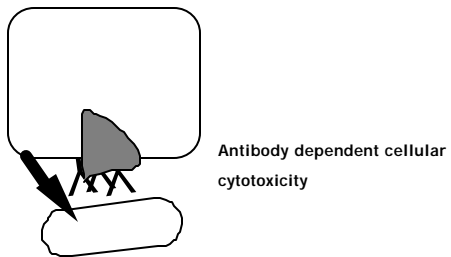
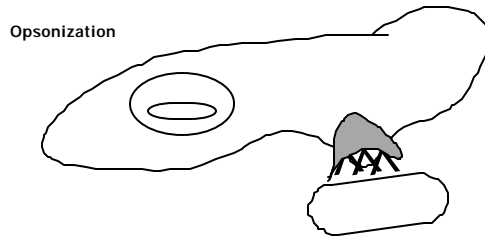
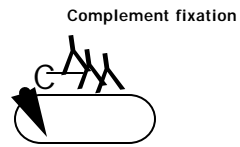
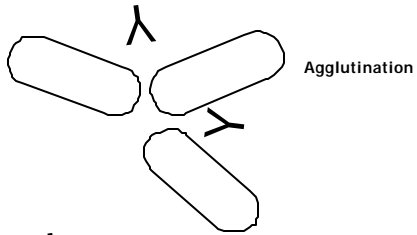


Coagulated (clotted) blood

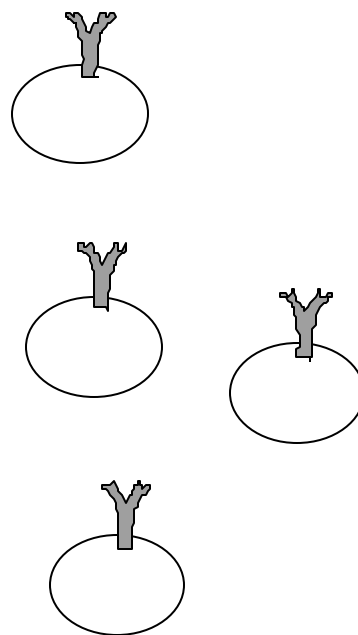
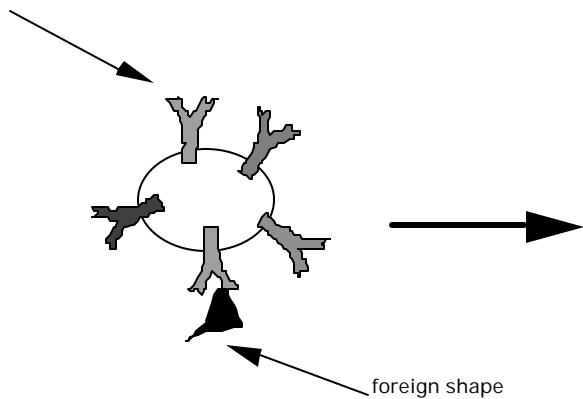


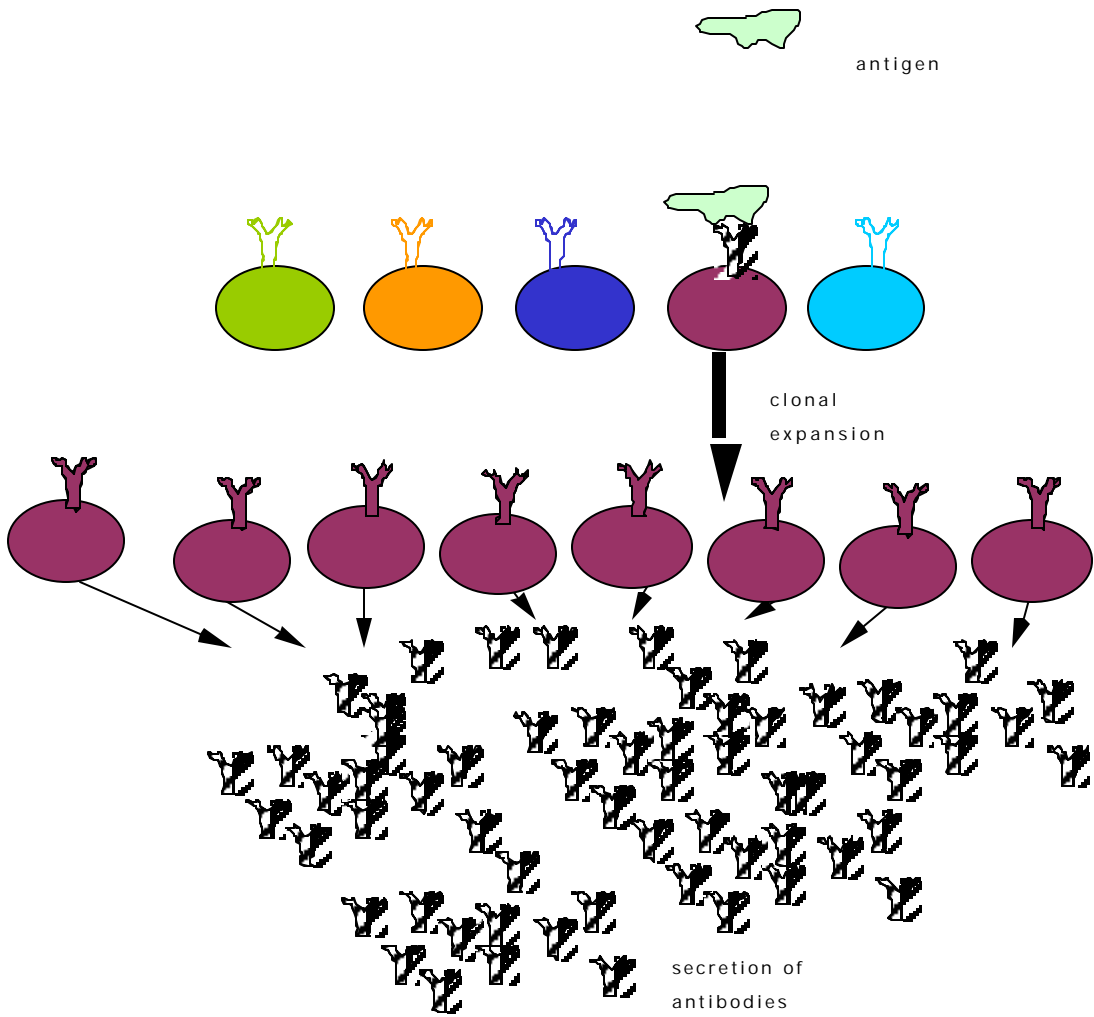
Specific Immunity

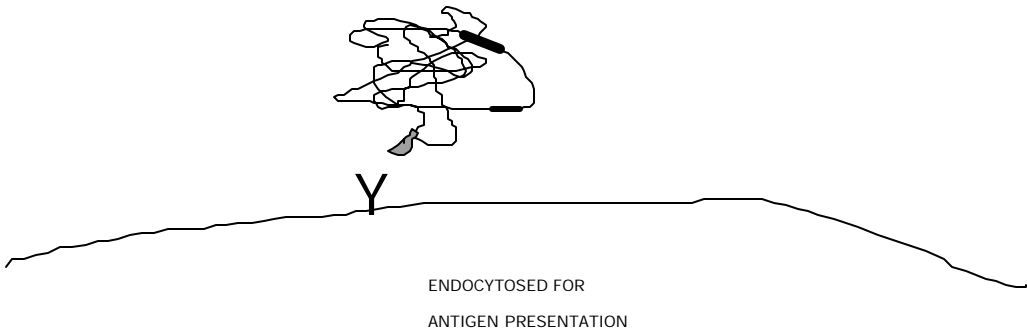
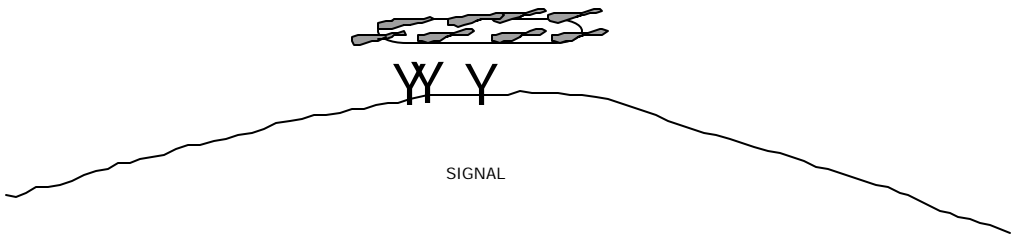
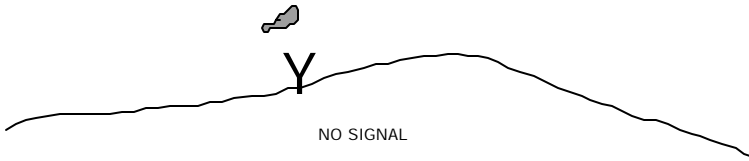
1. Active versus Passive Immunity
2. Humoral versus Cell Mediated Immunity



"Immune receptor"/antibody





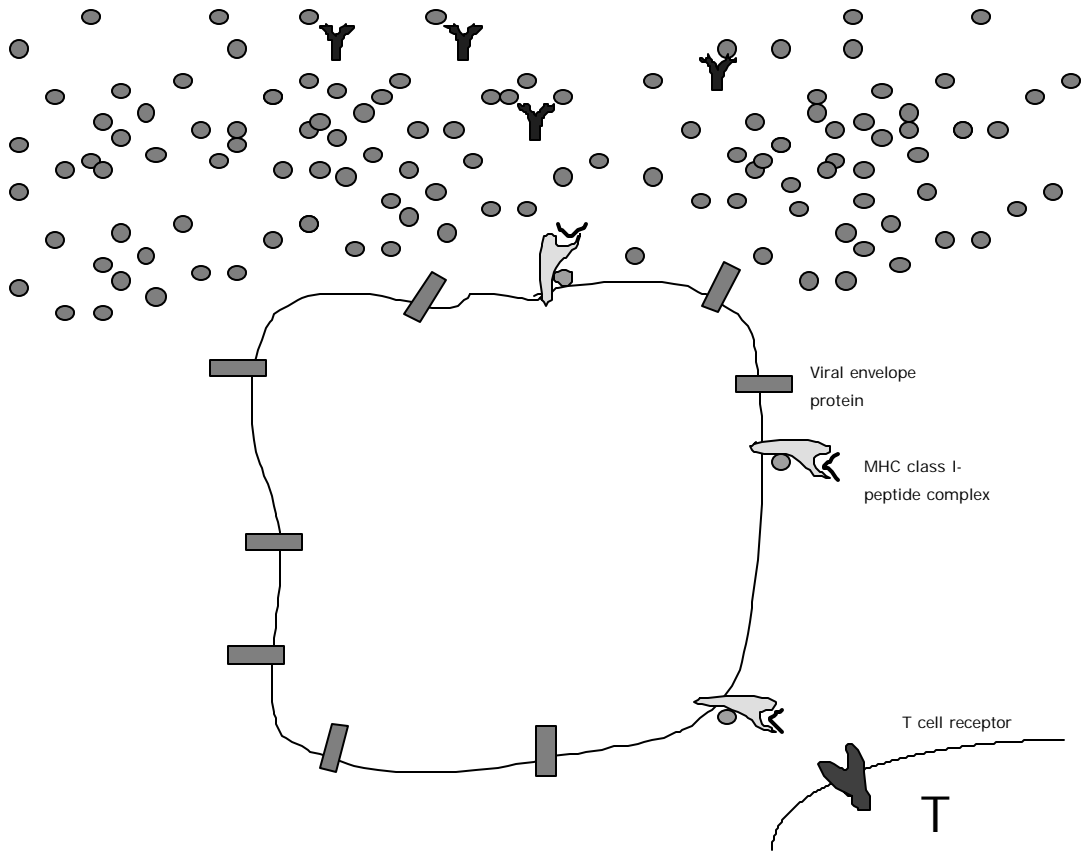


ANTIGENS -II

ALL IMMUNOGENS ARE ANTIGENS

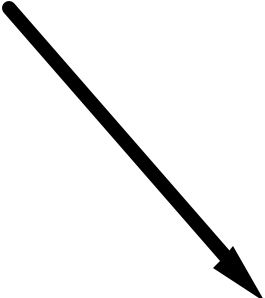
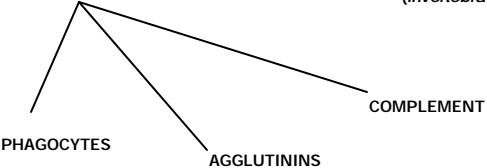
BUT

ALL ANTIGENS ARE NOT IMMUNOGENS



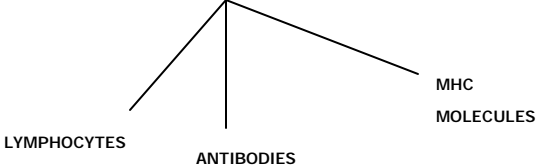
INNATE IMMUNITY

(Invertebrates and vertebrates)



(Vertebrates)

SPECIFIC IMMUNITY

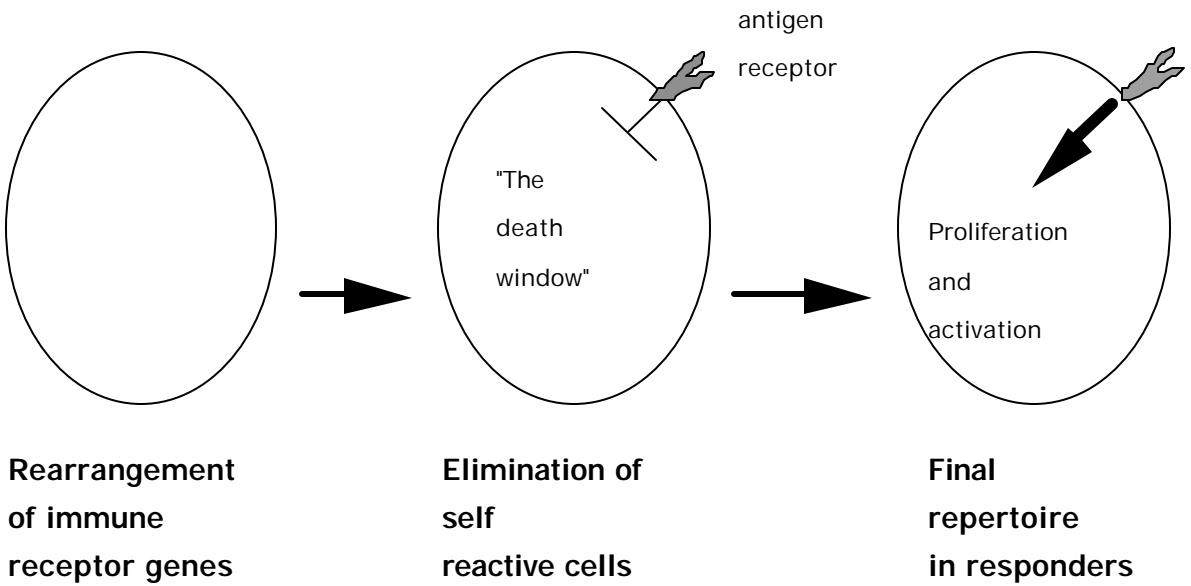


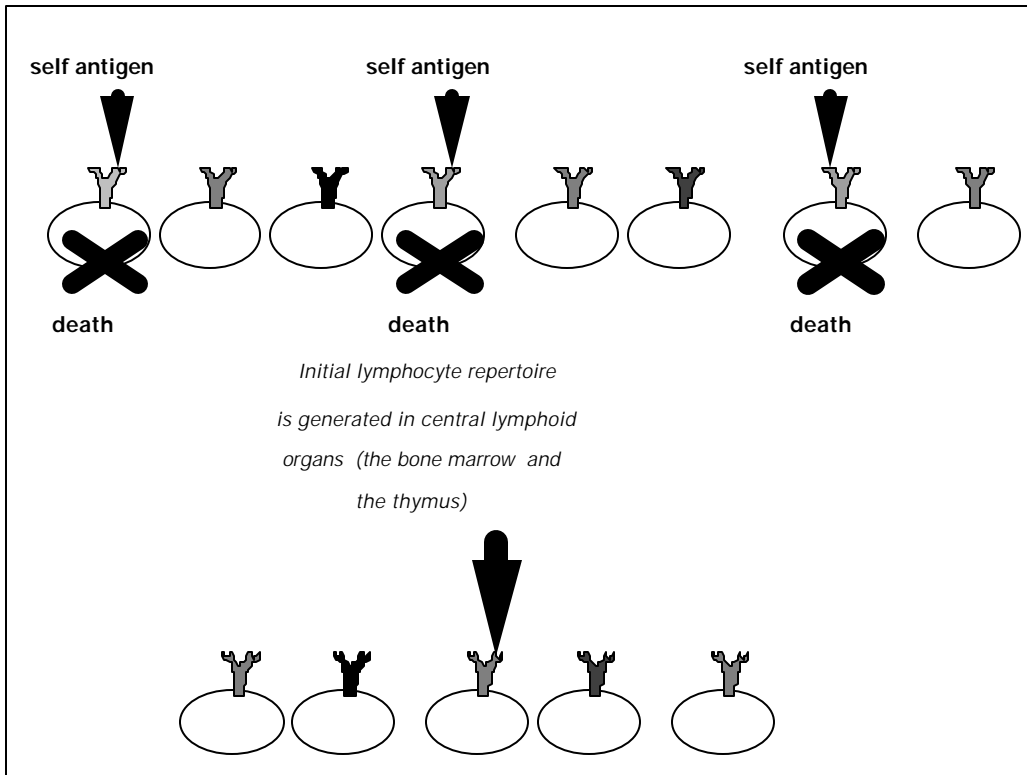
Generation of Diversity

Self-Nonself
Discrimination

Central lymphoid organs

Periphery

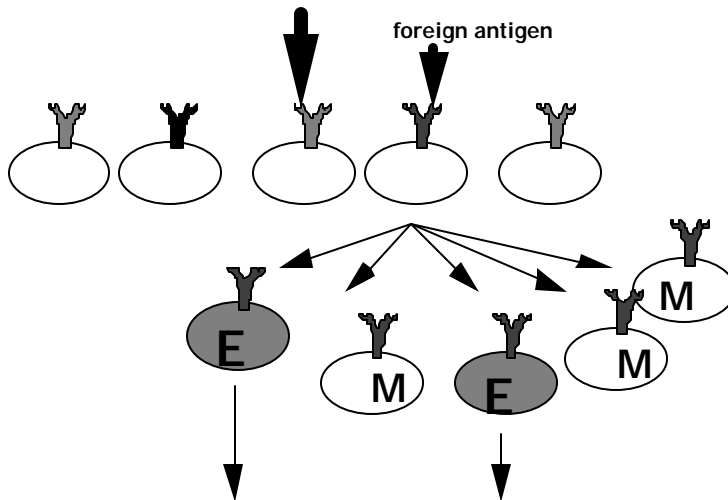




Immature cells die if stimulated

Initial lymphocyte repertoire is generated in central lymphoid organs (the bone marrow and the thymus)

After deletion of self reactive lymphocytes mature cells migrate to peripheral lymphoid organs



Mature cells proliferate and differentiate if stimulated

Some activated cells exhibit memory (M) while others are rewed up immune effectors (E)

Effectors acquire the ability to leave lymph nodes and enter the tissues which contain the foreign antigen which they will zap or mop up