Immune Response

- Natural Defence Factors
  - Genetic factors
  - Absolute (Exact) resistance
  - Relative resistance
- Physical Barriers
  - Anatomical-Physiological structure
- Nonspesific (Innate) Immunity
  - Phagocytosis
  - Complement
  - Cytokine
  - Cytotoxic effect
- Spesific (Adaptive) Immunity
- Humoral Immune Response
  - B lymphocytes….Antibody
- Cellular Immune Response
  - T-lymphocytes…Effector

Structural Defense Barriers

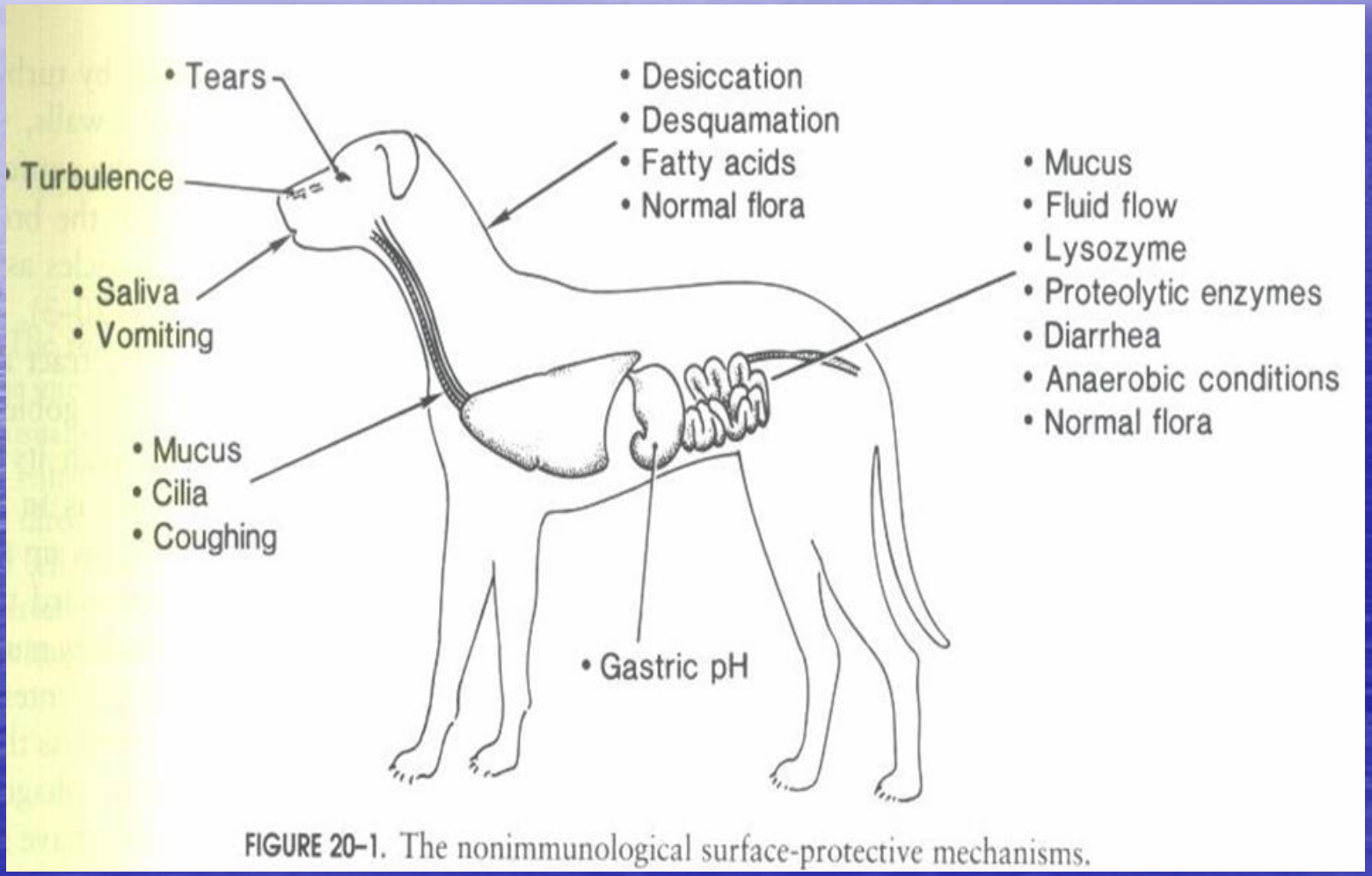
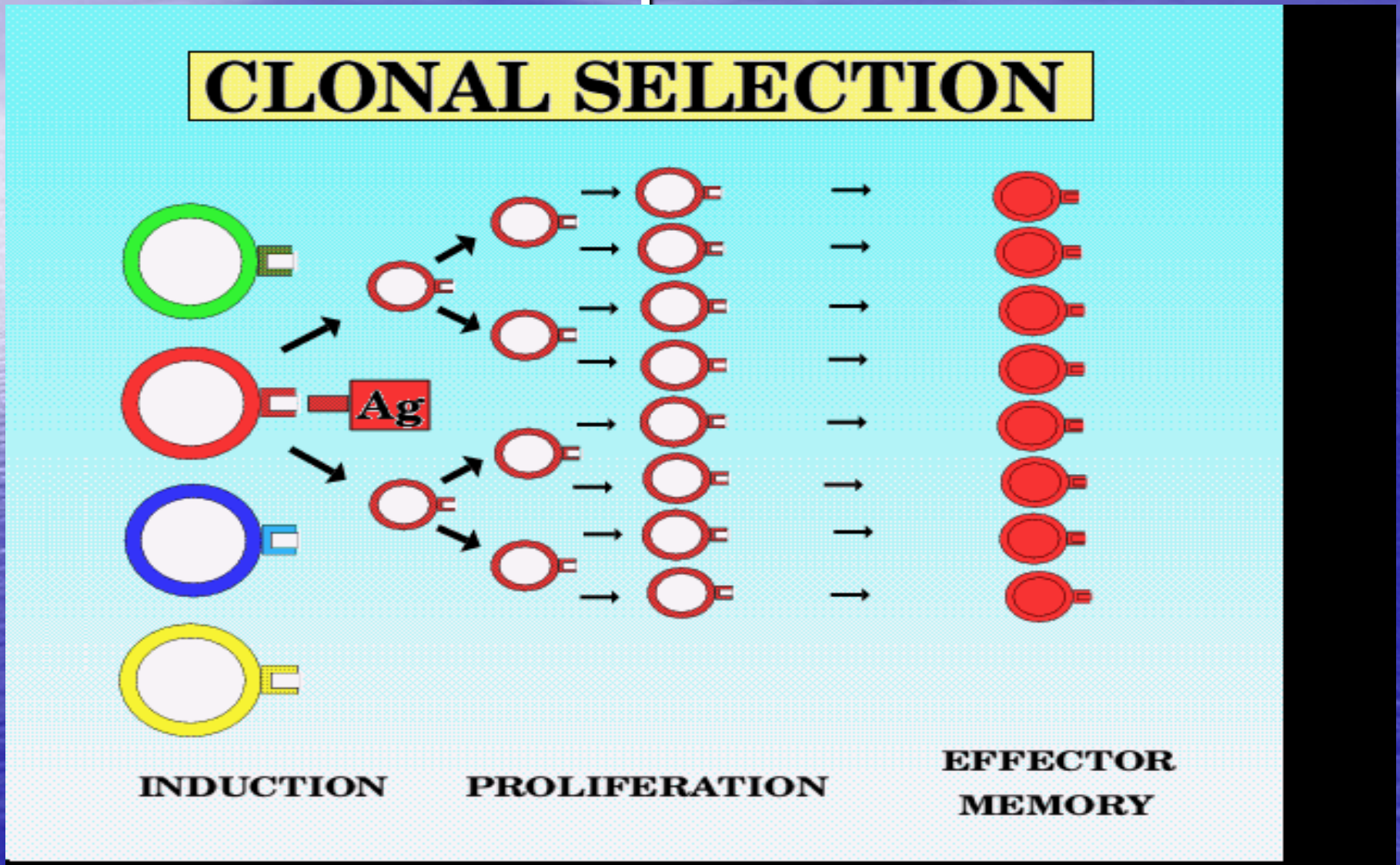


FIGURE 20–1. The nonimmunological surface-protective mechanisms.

Stages of Specific Immune Response



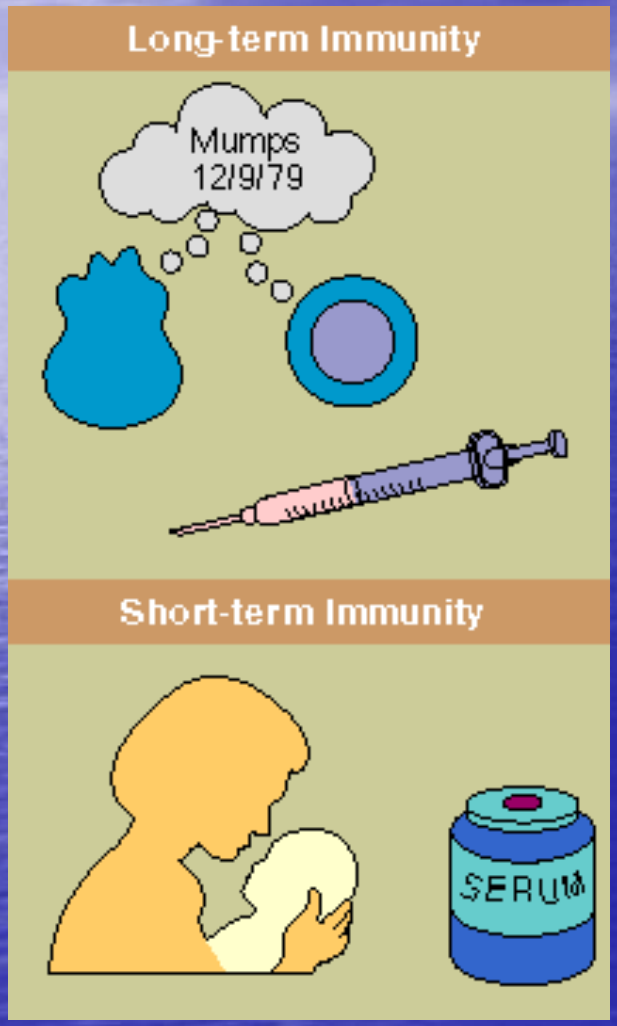
Key Features of Spesific Immun Response

- -Specifity: Epitope (Antigenic determinant)
- -Memory : T-memory
  B-memory
- -Self-tolerance : No immun response to body's own antigens (Distinguishing between self and non-self)
- Diversity: There are 1.000.000.000 lymphocyte clones
- Otocontrol

Ways to Get Immunity

- Natural Acitve Immunity: Infections

Ways to Get Immunity



- Artificial Active Immunity: Vaccines
- Natural Passive Immunity :Colostrum-short term
- Artificial Passive Immunity: Antiserum-short term

ANTIGEN

- *<u>Antigen-Immunogen:</u> All substances that produce immune response*
- *<u>Antigenity-Immunogenicity:</u> The ability of a substance to stimulate the immune response*
- Factors determining antigenicity

- Foreigness : Filogenetik ilişki
- Molecular Structure

*molecular weight

*molecular complexity

*solvability /durability

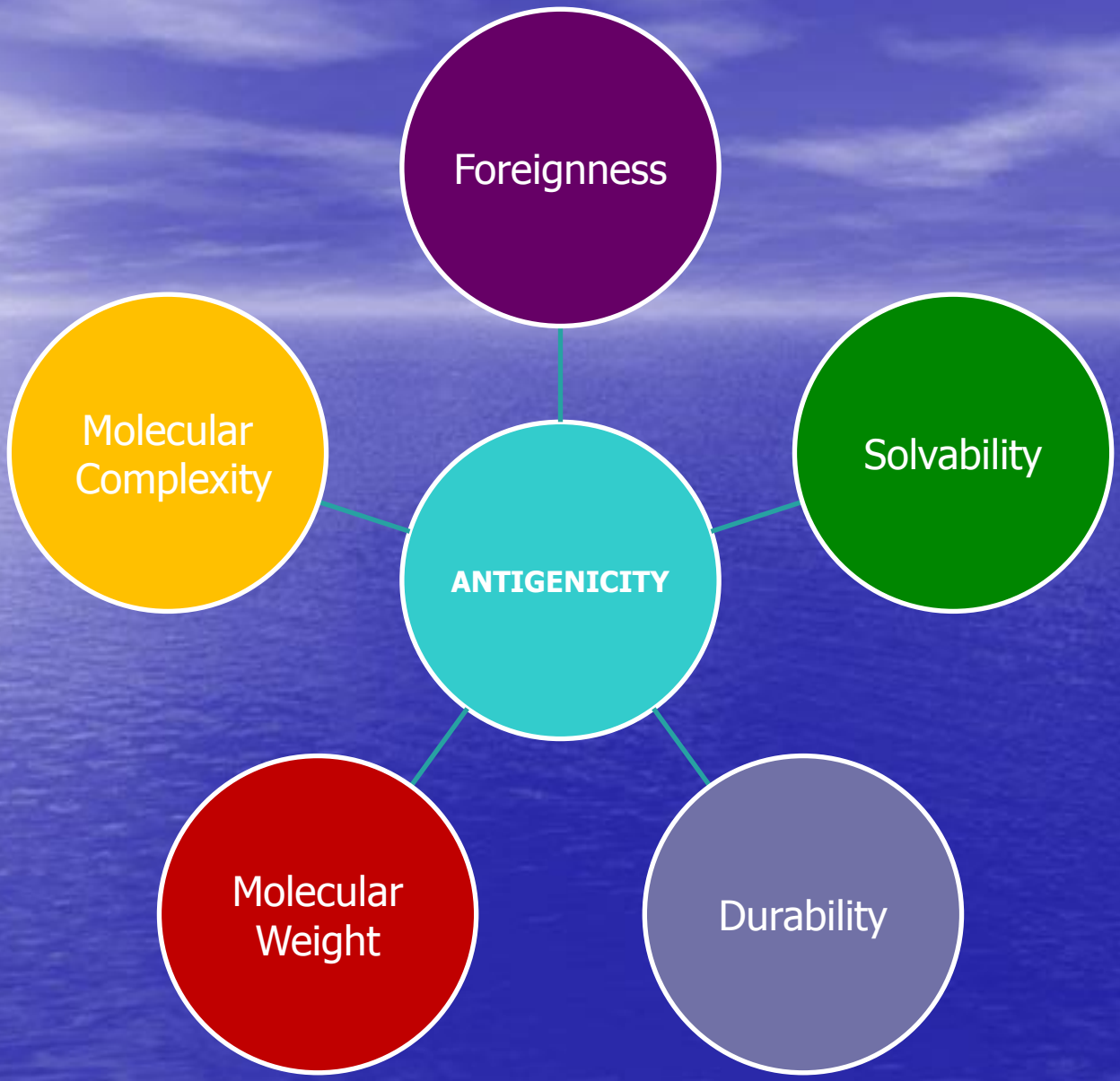
*other factors (entry of antigen into the body, dose)

ANTIGEN

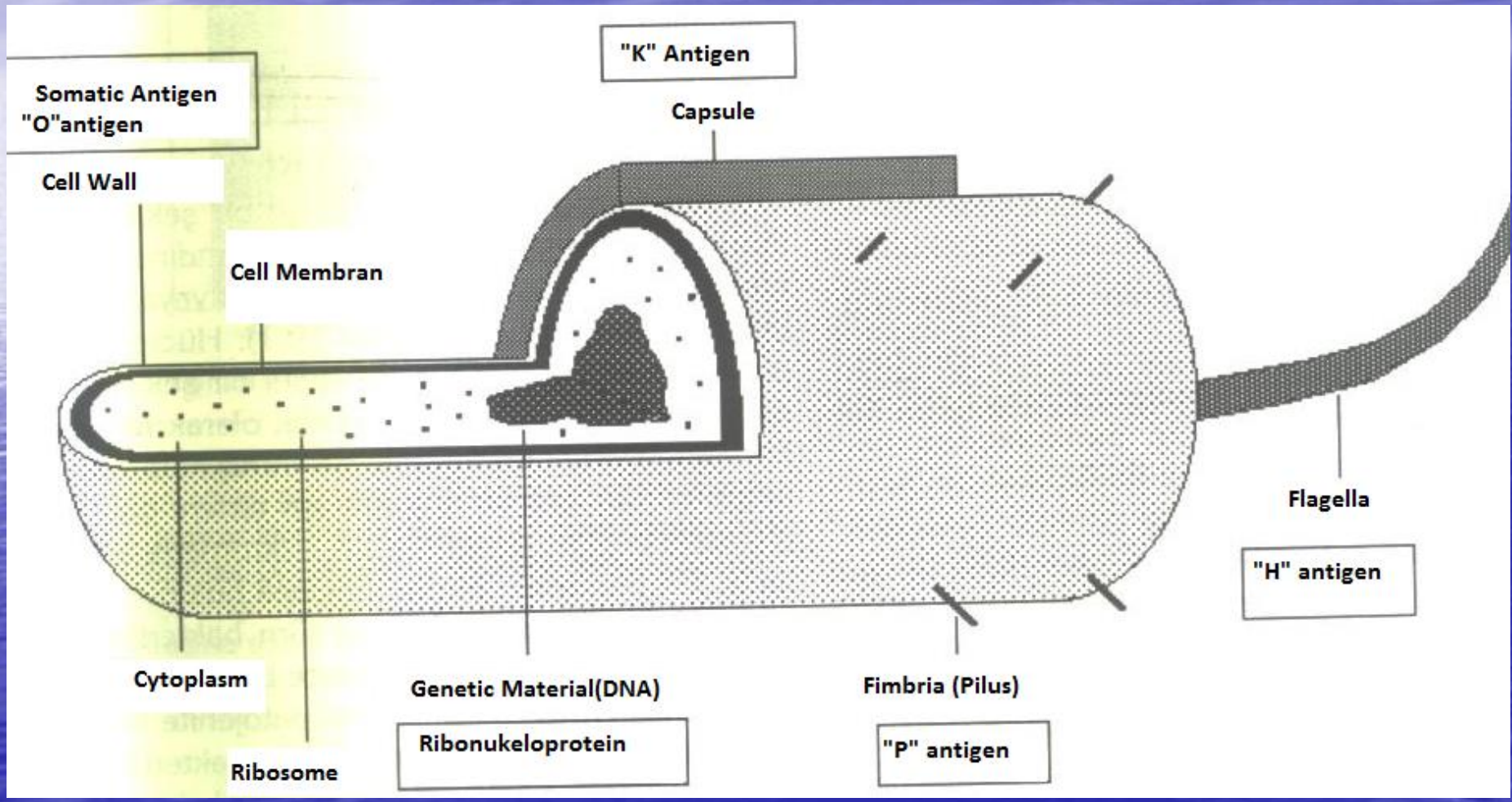
- Antigenik Determinant (Epitope): is the region of the antigen that is recognized by spesific antibodies and providing the development of the specific immune response to its own
- Consist of about 4-8 aminoacids
- Antigenic molecule contains 1 for a weight of about 5000 Da

HAPTEN

- Hapten: Molecules that cannot only perform the immune response but, when combined with a carrier molecule, obtain antigenic properties.


Foreignness
Molecular Complexity
ANTIGENICITY
Solvability
Molecular Weight
Durability

ANTIGEN


"K" Antigen
Somatic Antigen
"O"antigen
Capsule
Cell Wall
Cell Membran
Flagella
"H" antigen
Cytoplasm
Genetic Material(DNA)
Fimbria (Pilus)
Ribonukeloprotein
"P" antigen
Ribosome