

I. Antigen (Ag)

A.Hapten

II. Antibody (Ab)

A. Structure

1. Side to side

1) Heavy chains

2) Light chains

2. Top to Bottom

a. Function

1) Fab

2) Fc

b. Sequence

1) Variable region

2) Constant region

B. Classes

1. IgM

2. IgG

3. IgA

4. IgD

5. IgE

III. Lymphocyte Development

A. Diversity

B. Selection

1. T lymphocytes

a. thymus

2. B lymphocytes

IV. Ab production

A. B lymphocytes

B. T Dependent Ags

1. Primary response

a. Clonal selection

b. Class switching

2. Secondary Response

a. Memory B cells

C. T Independent Ag

V. Ag-Ab binding results

A. Neutralization

B. Immobilization

C. Agglutination

D. Opsonization

E. Complement activation

F. ADCC

VI. Cellular Immunity

A. Ag presenting cells

1. Major Histocompatibility Complex (MHC)

a. Presentation

B. Distinguishing T cells

a. cluster of differentiation (CD)

C. Cytotoxic T cells

1. CD8

2. cytotoxins

D. NK cells

E. Helper T Cells

a. CD4

1. Th1 cells

2. Th2 cells