Type 1 - Immediate (or atopic, or anaphylactic)

Figure 1a: Primary exposure

- "Naive" B lymphocyte
  - BCR
  - Endocytosis
  - Protein antigen

- Th2 CD4+ T helper lymphocyte
  - TCR
  - HLA II
  - Cytokines
  - CD4
  - Processed antigen
  - "Primed" B lymphocyte

- "Activated" B lymphocyte
  - HLA II

- Peptide
Figure 1b: Primary exposure

- Plasma B lymphocyte
- IgE
- Fc receptor
- "Sensitised" mast cell
Figure 1c: Re-exposure

- "Sensitised" mast cell
  - IgE
  - Fc receptor

- Protein antigen

- "Activated" mast cell
  - Cross linking of Fc receptors

- Mast cell degranulation
  - Inflammatory mediators
Type 2 - antibody-dependent cytotoxicity

Figure 2a: Classical complement pathway

- Protein antigen
- Membrane attack complex (MAC)
- C3b
- Fc domain of Ig
- C1
- C5 convertase
- Lysis
- Kill

Click here for more detail
Figure 2b: Antibody dependent cell cytotoxicity (ADCC)
Figure 3a - Type 3 - immune complex hypersensitivity

[Diagram showing the mechanism of Type 3 immune complex hypersensitivity, including the association of Ig with protein antigen, formation of immune complexes, and deposition in tissue.]
Figure 3b

Immune complex

Tissue

C1
Type 4 - cell-mediated (Delayed-Type Hypersensitivity, DTH)

Figure 4a: Primary exposure

- Peptide
- HLA II
- Th1 CD4+ helper lymphocyte
- TCR
- HLA II
- CD4
- Protein antigen
- Processed antigen
- Phagocytosis
- Tissue
Figure 4b: Re-exposure

Memory Th1 CD4+ T helper lymphocyte

Macrophage

Effector Th1 CD4+ T helper lymphocyte

Protein antigen

Tissue