

# Advanced Human Immunology

Immunology · Practice Test · 8 Questions

---

**1. Which specific immunoglobulin class is the first to be secreted during a primary immune response and functions as a pentamer in its secreted form?**

- A) IgG
- B) IgA
- C) IgM
- D) IgD

**2. What is the primary function of the Aire (autoimmune regulator) protein expressed in the thymic medullary epithelial cells?**

- A) Inducing apoptosis in self-reactive T cells
- B) Promoting the survival of regulatory T cells
- C) Regulating the expression of peripheral tissue-restricted antigens for negative selection
- D) Enhancing MHC class II presentation of exogenous antigens

**3. During B-cell development, which enzyme is responsible for the introduction of N-nucleotides at the junctions of V, D, and J gene segments?**

- A) RAG-1
- B) TdT (Terminal deoxynucleotidyl transferase)
- C) DNA Polymerase epsilon
- D) AID (Activation-induced cytidine deaminase)

**4. Which cytokine is primarily responsible for the differentiation of naive CD4+ T cells into the Th17 subset in humans?**

- A) IL-4
- B) IFN-gamma
- C) TGF-beta and IL-6
- D) IL-12

**5. What is the role of the TAP (Transporter associated with Antigen Processing) protein in the MHC class I pathway?**

- A) Degradation of cytosolic proteins into peptides
- B) Stabilization of the MHC class I alpha chain
- C) Transport of peptides from the cytosol into the endoplasmic reticulum
- D) Loading of MHC class I molecules with exogenous antigens

**6. Which complement pathway is initiated by the binding of C1q to antigen-antibody complexes?**

- A) Alternative pathway
- B) Lectin pathway
- C) Classical pathway
- D) Terminal pathway

**7. What is the specific phenotypic marker combination that characterizes human regulatory T cells (Tregs)?**

- A) CD3+, CD4+, CD8+
- B) CD3+, CD4+, CD25+, Foxp3+
- C) CD3+, CD8+, CD28+
- D) CD3+, CD4+, CD40L+

**8. Which cell type is the primary source of the cytokine IL-2 in the early stages of an adaptive immune response?**

- A) Activated CD8+ T cells
- B) Activated CD4+ T cells
- C) Follicular dendritic cells
- D) Natural Killer cells