

Examination Format

The American Society for Clinical Pathology Board of Certification (ASCP BOC) QIHC qualification examination is composed of 50 questions given in a 90-minute time frame. All examination questions are multiple-choice with one best answer. More information is available on the ASCP BOC website.

The examination questions may be both theoretical and/or procedural. Theoretical questions measure skills necessary to apply knowledge, calculate results, and correlate reactions/patient results to histology. Procedural questions measure skills necessary to select/perform appropriate laboratory methods, evaluate laboratory reactions/results, and follow quality assurance protocols.

Examination Content Areas

The examination questions encompass the following content areas within immunohistochemistry. Each of these content areas comprises a specific percentage of the overall 50-question examination.

Content Area	Examination Percentage
General Immunology	5 – 10%
Detection Systems	20 – 25%
Specimen Handling	10 – 15%
Epitope Enhancement (Antigen Retrieval)	10 – 15%
Staining	25 – 30%
Laboratory Operations	15 – 20%

Examination Topic Outline

- Regulatory questions on the examination are based on U.S. sources (e.g., AABB, FDA, CLIA, etc.).
- The examples provided in this topic outline (as indicated by e.g.,) are not limited to those listed.

I. General Immunology

5 – 10% of total examination

- A. Antigen
- B. Antibody
 - Monoclonal antibodies
 - Polyclonal antibodies
 - Antibody classes
 - Antibody structure

II. Detection Systems

20 – 25% of total examination

- A. Immunofluorescence
- B. Immunohistochemistry and *in situ* Hybridization
 - Substrates
 - Enzymes
 - Chromogens
 - Blocking reactions
 - Polymer/multimer detection
 - Amplification systems

III. Specimen Handling

10 – 15% of total examination

- A. Fixation
- B. Processing
- C. Microtomy/Slide Preparation
- D. Cytology Specimens
- E. Immunofluorescence Specimens
- F. Frozen Sections

IV. Epitope Enhancement (Antigen Retrieval)

10 – 15% of total examination

- A.** Methods, Principles, and Techniques
 - 1. Heat-induced epitope retrieval
 - 2. Enzyme-induced epitope retrieval
 - 3. Combined heat and enzyme methods

V. Staining

25 – 30% of total examination

- A.** Principles and Mechanisms
 - 1. Direct
 - 2. Indirect
 - 3. Avidin-Biotin
 - 4. *In situ* hybridization
- B.** Tissues
 - 1. Morphology/anatomy
 - 2. Cell/component demonstration
 - a. Staining patterns
 - b. Microorganisms
 - 3. Basic concepts in pathology
- C.** Stain Components/Characteristics
 - 1. Concentrated antibody
 - 2. Pre-diluted antibody
 - 3. Lyophilized antibody
 - 4. Diluents
 - 5. Titrations
 - 6. Reagents
- D.** Troubleshooting
- E.** Mounting Procedures
- F.** Preliminary Screening

VI. Laboratory Operations

15 – 20% of total examination

- A.** Quality Control/Quality Assurance
 - 1. Documentation
 - a. Procedures
 - b. Quality control records
 - c. Personnel
 - d. Reagents/antibody lots
 - 2. Selection, utilization, and evaluation of control tissue
 - 3. Slide storage
 - 4. Method selection, optimization, and validation
 - 5. Troubleshooting
- B.** Safety
 - 1. Storage
 - 2. Disposal
 - 3. Hazards
 - 4. Regulations
 - 5. Procedures
- C.** Laboratory Mathematics
- D.** Ancillary Equipment/Instruments (e.g., microwave, computers, pH meter, solvent recovery, hybridization chamber)
- E.** Regulations
 - 1. Federal government
 - 2. Accrediting agencies

END OF TOPIC OUTLINE