Qualification in Immunohistochemistry - QIHC
Examination Topic Outline

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
Detection Systems	**20 – 25%**
Specimen Handling	**10 – 15%**
Epitope Enhancement (Antigen Retrieval)	**10 – 15%**
Staining	**30 – 40%**
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. Detection Systems

20 – 25% of total examination

A. Immunofluorescence
B. Immunohistochemistry and *in situ* Hybridization
1. Substrates
2. Enzymes
3. Chromogens
4. Blocking reactions
5. Polymer/multimer detection
6. Amplification systems

II. Specimen Handling

10 – 15% of total examination

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

III. 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

IV. Staining

30 – 40% of total examination

- **A. Principles, Mechanisms, and General Immunology**
  1. Direct
  2. Indirect
  3. Avidin-biotin
  4. Multimer/polymer
  5. Intensification/amplification systems
  6. *In situ* hybridization (FISH, CISH, SISH)
  7. Antigens
  8. Antibodies (monoclonal, polyclonal, structure, classes)
- **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**

V. 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