QUALIFICATION IN IMMUNOHISTOCHEMISTRY (QIHC) PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

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How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

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Questions

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1. Which antibodies are included in the MAIS procedure for PIN-4?

A. CK5/14 - prostate basal/epithelial cells cytoplasmic; p63 - Basal cells Nuclear; P504S - epithelia cells - cytoplasmic

B. CK5/14, p63, P504S

C. CK5/14, CK7, P63

D. p63, P504S, CK5/14

2. After completion of an IHC stain, background staining is observed in both control tissue and specimen tissue. Which of the following could be a cause?

A. Excessive incubation with substrate-chromogen reagent.

B. Reagents too concentrated.

C. Sections incorrectly dewaxed.

D. Slides inadequately rinsed.

3. What makes a reliable tissue control?

A. Antigen expression must be unpredictable between independent samples

B. Antigen expression must be predictable and stable between independent samples

C. Controls should change with lot-to-lot variation

D. Control must be negative for all antigens

4. Which of the following is commonly used as a chromogenic substrate with horseradish peroxidase?

A. Hydrogen peroxide

B. Naphthol-AS-phosphate

C. Tetramethylbenzidine

D. 3,3'-diaminobenzidine

5. Secretes macrophage-migration inhibition factor

A. Cytotoxic T cells

B. B cells

C. T Helper cells

D. NK cells

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6. Which gene is commonly rearranged in synovial sarcoma?

A. SYT

B. EWSR1

C. FOXO1A

D. DDIT3

7. The term primary tumor refers to which concept?

A. Secondary tumor at distant site

B. Original tumor; the source of metastasis

C. Benign tumor

D. In situ tumor

8. Which of the following substances make bacteria more susceptible to phagocytosis?

A. Opsonins

B. Allergens

C. Haptens

D. Interleukin 1

9. Endogenous peroxidase enzymes are found in which cells/tissues?

A. Blood Cells (hemoproteins)

B. Neurons

C. Adipocytes

D. Keratinocytes

10. Which statement best describes a chromogen?

A. A fluorescent molecule

B. A fixative

C. An enzyme

D. A benzene derivative containing a color-bearing group

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Answers

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1. A
2. D
3. B
4. D
5. C
6. A
7. B
8. A
9. A
10. D

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Explanations

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1. Which antibodies are included in the MAIS procedure for PIN-4?

A. CK5/14 - prostate basal/epithelial cells cytoplasmic; p63 - Basal cells Nuclear; P504S - epithelia cells - cytoplasmic

B. CK5/14, p63, P504S

C. CK5/14, CK7, P63

D. p63, P504S, CK5/14

The test is about which antibodies make up the PIN-4 MAIS panel and why that combination is useful for evaluating prostatic lesions. This triple-stain set uses two basal cell markers and one neoplastic marker to distinguish benign glands from PIN or cancer. CK5/14 labels cytoplasmic basal cells in prostatic glands, showing where the basal layer is present. p63 marks basal cells in the nucleus, reinforcing identification of an intact basal layer. P504S, also known as AMACR, stains cytoplasm and is overexpressed in neoplastic prostatic epithelium. Using all three together lets you see: glands with a continuous basal layer (positive CK5/14 and/or p63, with AMACR not overexpressed) are likely benign, while glands lacking a basal layer or showing disrupted basal staining alongside AMACR positivity point toward PIN or carcinoma. The specific trio CK5/14, p63, and P504S is what the MAIS PIN-4 panel comprises, whereas including other markers (like CK7) or omitting one of these three would not reflect the PIN-4 strategy.

2. After completion of an IHC stain, background staining is observed in both control tissue and specimen tissue. Which of the following could be a cause?

A. Excessive incubation with substrate-chromogen reagent.

B. Reagents too concentrated.

C. Sections incorrectly dewaxed.

D. Slides inadequately rinsed.

Background staining in IHC happens when nonspecific binding or leftover reagents remain on the slides, so color develops in areas that shouldn't have the target antigen. Proper rinsing is essential to remove unbound antibodies and to stop the chromogenic reaction; if rinsing is inadequate, unbound reagents stay on both control and test tissue, producing diffuse background staining across all sections. So, when both control tissue and specimen tissue show background after staining, the most likely issue is slides not being rinsed well enough. Other options could contribute to stronger signal or nonspecific color, but they're less directly tied to background appearing in every sample because of leftover, unremoved reagents.

3. What makes a reliable tissue control?

A. Antigen expression must be unpredictable between independent samples

B. Antigen expression must be predictable and stable between independent samples

C. Controls should change with lot-to-lot variation

D. Control must be negative for all antigens

The key idea is that a reliable tissue control must show known, constant antigen expression across different samples and runs. When the control's antigen expression is predictable and stable, you have a dependable reference to confirm that the staining procedure—including fixation, antigen retrieval, and detection—worked correctly. This stability lets you distinguish a true negative in a patient sample from a technical failure, because the control should consistently stain as expected if the assay is functioning. If the control's antigen expression were unpredictable between independent samples, you wouldn't be able to tell whether a negative result came from the sample or from the control itself, making the control unreliable. If the control varied with lot-to-lot changes, it wouldn't provide a stable benchmark across runs. And a control that is negative for all antigens wouldn't validate the assay's ability to detect the targets of interest.

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4. Which of the following is commonly used as a chromogenic substrate with horseradish peroxidase?

A. Hydrogen peroxide

B. Naphthol-AS-phosphate

C. Tetramethylbenzidine

D. 3,3'-diaminobenzidine

Horseradish peroxidase reveals the location of an antibody by oxidizing a chromogenic substrate to produce a visible color precipitate at the site of the antigen. The substrate must create a stable, insoluble color that can be seen under light microscopy and remain through tissue processing. The classic, widely used chromogenic substrate for HRP is 3,3'-diaminobenzidine, which yields a brown, durable precipitate right where the enzyme is active, providing clear contrast with a counterstain. Hydrogen peroxide acts as the oxidant for HRP, not the color-producing substrate. Naphthol-AS-phosphate is used with alkaline phosphatase, not HRP. Tetramethylbenzidine is another HRP substrate and can give a blue color (or brown under certain conditions), but it is less commonly used as the standard in routine immunohistochemistry.

5. Secretes macrophage-migration inhibition factor

A. Cytotoxic T cells

B. B cells

C. T Helper cells

D. NK cells

Macrophage migration inhibition factor is a cytokine produced to keep macrophages at the site of infection, helping coordinate the early inflammatory response and enhance phagocytic activity. The primary source of this factor among the options is T helper cells, which secrete MIF as part of their role in regulating cell-mediated immunity and directing macrophage behavior during an immune response. Cytotoxic T cells and NK cells are geared toward killing infected cells, while B cells focus on antibody production, so they are not the main producers of this factor. Therefore, T helper cells best fit the source of macrophage migration inhibition factor.

6. Which gene is commonly rearranged in synovial sarcoma?

A. SYT

B. EWSR1

C. FOXO1A

D. DDIT3

Synovial sarcoma is classically driven by a chromosomal translocation that fuses the SYT gene (also called SS18) on chromosome 18 with an SSX gene (SSX1 or SSX2). This SYT-SSX fusion is the defining molecular event and is routinely sought by FISH or RT-PCR to confirm the diagnosis. The other genes listed are associated with different tumors: EWSR1 rearrangements with Ewing sarcoma, FOXO1A fusions with alveolar rhabdomyosarcoma, and DDIT3 rearrangements with myxoid liposarcoma. Thus, SYT is the gene commonly rearranged in synovial sarcoma.

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7. The term primary tumor refers to which concept?

A. Secondary tumor at distant site

B. Original tumor; the source of metastasis

C. Benign tumor

D. In situ tumor

The main idea is identifying the origin of cancer. The primary tumor is the original mass where malignant transformation began. From this site, cancer cells can invade surrounding tissues and spread through the body to form new tumors elsewhere, which are called metastases. So the primary tumor is the source of metastasis. In contrast, a secondary tumor at a distant site is a metastatic deposit, an in situ tumor remains localized without invasion, and a benign tumor is non-cancerous.

8. Which of the following substances make bacteria more susceptible to phagocytosis?

A. Opsonins

B. Allergens

C. Haptens

D. Interleukin 1

Opsonization is the process that makes bacteria more susceptible to phagocytosis. When bacteria are coated by opsonins, such as antibodies (especially IgG) and complement fragment C3b, phagocytes recognize these tags through Fc receptors and complement receptors, leading to efficient binding, engulfment, and killing of the bacteria. Allergens trigger allergic responses and are not involved in tagging bacteria for phagocytosis. Haptens are small molecules that become antigenic when bound to carriers and do not function as opsonins. Interleukin-1 is a cytokine that promotes inflammation and activates immune cells but does not directly coat bacteria to enhance phagocytosis. Therefore, opsonins best explain the increased susceptibility of bacteria to phagocytosis.

9. Endogenous peroxidase enzymes are found in which cells/tissues?

A. Blood Cells (hemoproteins)

B. Neurons

C. Adipocytes

D. Keratinocytes

Endogenous peroxidase activity comes from enzymes already present inside certain cells, most notably myeloperoxidase in leukocytes. This means blood cells are a primary source of endogenous peroxidase in tissue sections, which is why blocking this activity is a standard step before HRP-based detection to prevent unwanted background staining. Neurons, adipocytes, and keratinocytes do not have significant endogenous peroxidase activity, so they contribute little to background. Therefore, blood cells are the correct source of endogenous peroxidase in this context.

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10. Which statement best describes a chromogen?

A. A fluorescent molecule

B. A fixative

C. An enzyme

D. A benzene derivative containing a color-bearing group

Chromogenic detection relies on a substrate that, after being acted on by an enzyme linked to the antibody, produces a colored product that marks the location of the antigen. The chromogen is typically a benzene derivative containing a color-bearing group, which after enzymatic conversion forms a colored, insoluble precipitate at the site of interest. A classic example is diaminobenzidine (DAB), which yields a brown color with horseradish peroxidase. This is different from fluorescent dyes used in immunofluorescence, from fixatives that preserve tissue, or from the enzyme itself, which is just the catalyst—not the colored product.

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Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://qihc.examzify.com

We wish you the very best on your exam journey. You've got this!

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