Biomatik
Tel: (519) 489-7195, (800) 836-8089
Fax: (519) 231-0140, (877) 221-3515
Email: info@biomatik.com
https://www.biomatik.com

Custom Antibody Production Service FAQs

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Below are some frequently asked questions about the Biomatik Antibody Production service. If you have any other questions, please contact us at pa@biomatik.com.

1. **What antibody services do you provide?**
   We offer recombinant antibody production, monoclonal antibody production, polyclonal antibody production, and large-scale antibody production from hybridoma.

2. **Do you serve customers outside the USA/Canada?**
   Yes, we have been serving customers worldwide since 2002.

3. **Do you provide guarantees?**
   Yes, we offer some of the best guarantees in the industry. Contact us for details or download our antibody package information from our website.

4. **Which is better: polyclonal or monoclonal antibodies?**
   - **Polyclonal Antibodies:** Cost-effective, quick to produce, multiple specificities, but limited supply.
   - **Monoclonal Antibodies:** High specificity (single epitope), unlimited production, but more time-consuming and expensive.

   Your choice depends on your experimental needs.

5. **Can you assist with an immunization strategy?**
   Yes, we offer guidance on immunization strategies and recommend discussing your project with us early for optimal outcomes.

6. **What factors should I consider for peptide immunogen development?**
   - **Peptide Length:** Typically 12–22 amino acids; avoid peptides <8 amino acids unless necessary.
   - **Carrier Protein:** KLH is preferred; other carriers like albumin are also available.
   - **Conjugation Chemistry:** We recommend sulfhydryl cross-linkers for peptides without cysteine.

7. **Will my custom antibody recognize native protein?**
   This depends on the design. Using multiple peptides for the same protein increases the likelihood. Affinity purification often resolves background issues.

8. **How much protein is needed for antibody production?**
   We require 10 mg of protein (>90% purity) in two 5 mg sets. Provide SDS-PAGE data and ship as lyophilized powder (preferred) or neutral buffer (>1 mg/mL).

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9. Do you offer peptide/antigen design assistance?

Yes, we provide free peptide design with antibody projects. Our team analyzes your protein sequence for the most immunogenic regions and offers recommendations.

10. Should I add sodium azide to antiserum?

Sodium azide prevents bacterial growth and is recommended unless the antiserum is used for cell culture or similar applications.

11. What species and animal numbers are appropriate for polyclonal antibody production?

Species and numbers depend on the antigen and required serum volume. Typically, two rabbits are used, but for specific needs, goats, chickens, or other animals may be recommended.

12. Should I generate antibodies against a full-length protein or peptide?

- **Full-Length Protein:** Multiple epitopes, higher cross-reactivity risk.
- **Peptide:** Highly specific antibodies but limited by the chosen peptide's exposure in the native protein.

13. Can I use multiple peptides as antigens?

Yes, but mixing peptides in the same immunization may create competition. Separate immunizations are recommended for distinct peptides.

14. Will I receive the peptide at the end of the project?

Yes, up to 5 mg of peptide will be provided.

15. What antigen purity is required?

- **Screening:** ≥90% pure.
- **Immunization:** Less pure antigens can be used. Contact us if you have purity concerns.

16. What buffer should my antigen be in?

We recommend PBS or non-toxic biological buffers (e.g., Tris) without detergents or urea. Notify us if using other buffers.

17. Can you mass-produce and purify antibodies?

Yes, we offer large-scale production and purification using Protein G or Protein A affinity columns.

18. How will serum be shipped?

Serum is shipped on ice packs. If sodium azide is added, antibodies can remain stable at room temperature for up to a week.

19. How is my antibody shipped?

Custom antibodies are typically shipped as lyophilized powder.

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20. How can I ensure reproducible Western blot results?

Avoid reusing diluted antibodies. Ensure proper antibody concentration and confirm blotting procedures.

21. Why do I see unexpected bands in my Western blot?

This may indicate cleaved fragments, aggregated proteins, or homologous protein recognition. Affinity purification and proper controls can help.

22. Why do I see no bands in my Western blot?

Possible reasons include unexposed epitopes, protein conformational issues, or lack of target protein in the sample.

23. How do I interpret my ELISA results?

ELISA titers are reported as reciprocal dilutions. A titer of 60,000 means the antibody detects the antigen at a 1:60,000 dilution.

24. Can you provide information on your packages?

A summary of our packages based on antigen selection is in the table below, or you can download our polyclonal antibody service packages for further information and pricing.

25. What is the typical turnaround time for custom polyclonal antibody production?

Our typical turnaround time is 3 to 4 months for polyclonal antibody productions. This could vary depending on the antigen type and the antibody package choice you have selected.

26. I am in a rush to get an antibody for my research. Do you offer an express service for your antibody production?

Our default is a 70-day immunization protocol. However, a 42-day express protocol can be requested for certain packages at no extra cost. Please contact us for more information.

27. Do we need to provide the antigen?

Our packages include the option for you to supply the antigen yourself, or you can make use of our peptide synthesis and protein production services.

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28. How do I select the appropriate antibody production package for my research?

There are two basic starting antigen types: short peptide sequences or full length proteins. Our antibody packages are designed around these two basic types. The selection may be based on your budget and your downstream applications.

a. Other factors to consider include:
   i. Signal peptide regions and trans-membrane domains are not suitable for protein antigens, as these regions are generally not available for binding of the resulting antibody. Furthermore, these regions are generally excluded in cases where a recombinant protein is produced for immunization.
   ii. The antibodies produced from a short peptide sequence may behave a little differently from one that is produced from a full length protein, although the affinity should be the same. It's the conformational structure from a full protein that will impart this difference, since a chemically-synthesized peptide will be a linear sequence.
   iii. If you have a wide range of intended downstream applications – including immunofluorescence, immunohistochemistry, functional assays, WBs, and ELISAs – it may be worthwhile to use the protein antigen approach. If you only need this antibody for WBs or ELISAs, it would be more cost-effective to go with a peptide antigen.

29. Do you offer other host species for the polyclonal antibody service?

Yes, we do. We have a variety of different hosts you may choose from, including mouse, rat, guinea pig, as well as the standard rabbit. Please contact us for more details.

30. What is the standard polyclonal antibody production immunization protocol?

a. Day 0: 1-2 ml pre-immune sera and 1st immunization with CFA
b. Day 14: 2nd immunization with CFA
c. Day 28: 3rd immunization with IFA
d. Day 35: 4th immunization with IFA
e. Day 42: 5th immunization with NaCl (0.9 %)
f. Day 49: 6th immunization with NaCl (0.9 %)
g. Day 56: 7th immunization with NaCl (0.9 %) & serum collected for ELISA testing
h. Day 63: 8th immunization with NaCl (0.9 %)
i. Day 70: Final bleed (once serum titer reaches 1:8,000 dilution, proceed with serum collection and purification).

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Monoclonal Antibody Production FAQs

1. **What is single B cell monoclonal antibody production?**
   This technique isolates and sequences individual antigen-specific B cells from immunized animals, allowing rapid production of highly specific, fully recombinant monoclonal antibodies.

2. **How is single B cell mAb production different from traditional hybridoma production?**
   Single B cell production avoids myeloma fusion, delivers faster results, and provides native heavy-light chain pairings with reduced screening effort.

3. **Can you provide details of your packages?**
   We offer packages based on either *E.coli* peptide antigens or mammalian-produced recombinant protein antigens. Full details of the packages are available here.

4. **What species is used?**
   Biomatik typically uses mice for immunization and B cell isolation. Other species are available if required.

5. **What types of antigens can be used?**
   We work with recombinant *E. coli* proteins, mammalian proteins, and peptides. If needed, Biomatik can produce the antigen for you, using our custom peptide synthesis or recombinant protein production services. Our main service packages include antigen production, but you can provide the antigen if you prefer

6. **What deliverables will I receive?**
   a. 2–5 mg of monoclonal antibody from the top clone.
   b. Sequences and plasmids of top two antibody clones
   c. Cell supernatant from top 10 positive clones
   d. Protein or peptide sample (if Biomatik produces antigen)
   e. Full project report and QC data

7. **What guarantees are provided?**
   We guarantee an ELISA titer >128,000 and western blot positive results for your protein antigen.

8. **Can the recombinant antibody be scaled up?**
   Yes. Once your clone is identified, we offer optional large-scale recombinant production.

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7. **What is the typical turnaround time?**
   About 3 to 4 months for *E. coli* or peptide antigen projects, and 4 months for mammalian protein projects, including synthesis of the antigen.

Recombinant Antibody FAQs

1. **What is a recombinant antibody?**
   A recombinant antibody is produced in a host system using DNA sequences of the antibody's heavy and light chains, resulting in a highly consistent and scalable antibody product.

2. **How do you produce recombinant antibodies?**
   We can either sequence your antibody via our antibody sequencing service, or use customer-supplied sequences. We then synthesize the genes, clone, express, purify, and QC the antibody.

3. **Do you offer a guarantee?**
   Yes. For human, mouse, and rat antibodies, Biomatik provides a risk-free guarantee: if the project fails, there is no charge. For other species, there is a non-refundable charge if the project fails. Full information can be found in our T&Cs .

4. **Can you produce a recombinant antibody from my sequence?**
   Yes. We accept customer-supplied heavy and light chain sequences to initiate production.

5. **How long does production take?**
   Typical timelines range from 8 to12 weeks, depending on package and species.

6. **Can you scale up production?**
   Yes. We offer optional large-scale production of your recombinant antibody.