

Frequently asked questions (FAQ) BioCat's peptide synthesis service.

If you have any other or additional questions, please [contact us](#) and we will be happy to assist you.

Which analytical data do you provide for peptides?

- Peptide name and peptide sequence lot number
- Molecular formula
- Theoretical molecular mass
- Molecular mass, obtained by mass spectrometry
- Purity, determined by HPLC
- Appearance
- Solubility test

Which purity is recommended for my application?

- >75%, preferably >85%: Immunological applications, polyclonal antibody production and non-sensitive screening
- >90%: SAR studies, bioassays
- >95%: In vitro bioassays such as ELISA, enzymology, biological activity
- >98%: Structural studies such as crystallography, NMR or sensitive bioassays

Download our [Recommended Peptide Purity Guideline](#) for more details.

TFA salt form vs. Acetate or HCl salt form: Which form should I choose?

By default, all research peptides are synthesized in TFA salt form. For cell-based assays or animal studies, you shall consider having TFA salt removed by switching it to acetate or HCl salt form (with TFA <1% guarantee) to avoid abnormal responses. Depending on the budget, you may also want to consider higher purities (>98%) to get optimal results.

How long you can synthesize a peptide?

Biomatik can synthesize peptides up to 120aa. Unlike many peptide suppliers who are only comfortable in making peptides under 30 or 40aa, Biomatik has extensive experience in making peptides ranging from 40aa to 90aa.

What type of end terminal modification choice is appropriate?

By default, chemically synthesized peptides have a free amine at the N-terminal and free acid at the C-terminal end. N-terminal acetylation and C-terminal amidation are uncharged, which reduces the overall charge of a peptide so the solubility may decrease. However, the modifications are desirable since it imitates its natural structure. It increases the metabolic stability of peptides and their ability to resist enzymatic degradation by aminopeptidases, exopeptidases, and synthetases. This enhances their ability to enter cells, thus increasing the biological activity of a peptide. We recommend the modifications for intracellular, in-vivo assays and in-vitro functional studies. The modified peptides can then be used as substrates in enzyme assays. Amidation not only enhances the activity of peptide hormones, it also prolongs their shelf life. The modifications can reduce the influence of charged C- or N-termini during ELISA binding assays.

How to dissolve my peptide?

The [Peptide Handling Guideline](#) will help you in dissolving your peptide properly. You may request a peptide solubility test at the time of ordering, free of charge.

How do I store my synthetic peptides?

Most lyophilized peptides will be stable at room temperature for 2-3 weeks. For long-term storage, you should store lyophilized peptides at -20°C. Repeated freeze-thaw cycles should be avoided. Allow to come to room temperature before opening. The shelf life of peptide solutions is limited; a peptide solution once prepared should be used as soon as possible.

What is the appropriate peptide length for antibody production?

Generally, a 10-25 residue peptide is recommended. A longer peptide could have more epitopes, but could also have a greater chance of forming stable secondary structures which are not native forms. A shorter peptide (<10aa) is generally not good unless there are valid reasons for it, such as potential sequence homology with a related family member or other proteins.

Which peptide analytical services do you provide?

- Mass Spectrometry (MS)
- HPLC Purity
- Net Peptide Content
- TFA Content
- KF Test (Water Content Test)

How to determine net weight and molar amount of the desired target peptide?

Biomatik ships peptides according to the gross weight of lyophilized powder. The lyophilized powder includes impurities such as fragment peptides, salts and residual water. Please refer to our [Peptide Handling Guideline](#) for determining the molar calculation of your synthetic peptide concentration.

How do I design custom peptide sequence for my applications?

The sequence, amino acid composition and length of a peptide will influence whether correct assembly and purification are feasible. These factors also determine the solubility of the final product. Please refer to our [Peptide Design Guideline](#) on some factors in the design of a peptide sequence for synthesis.