

How to choose a solid phase peptide synthesizer



There are a number of things to consider when looking for a solid phase peptide synthesizer. Probably the number one factor will be the scale of synthesis you will be doing. This is generally determined by the amount of final peptide that is desired. Will there always be one scale or will you sometimes need less peptide and other times require a larger amount? 10mgs to 100mgs of final peptide can generally be obtained with a synthesis of 0.2 to 0.5 mmols. 200 mg to gram quantities will require a 1 to 5 mmol synthesis. Multiple grams of pure peptide will require 10mmol scale syntheses and greater.

Another factor that will influence the choice synthesizer is the purpose of your synthesis. Will this synthesizer be used simply to produce peptides or will you be using it for process development? If your needs are process development then a synthesizer with a wide range of chemistries, solvents and scales will be required. The type of mixing may also be a factor, when considering scaling up overhead stirring may be the mixing style of choice as this is generally used for multi-liter vessels.

When considering a peptide synthesizer it would be good to consider how often the synthesizer will be used. Will it be used non-stop or sporadically as a peptide is required? If sporadically then a synthesizer that uses amino acid powders would be a good choice, if it is to be used day in and day out then amino acid reservoirs that have pre-dissolved AA's that can be sampled might make a better choice.

The number of users should also be considered. If there are to be multiple users then a synthesizer that can have a number of simple, preset synthetic protocols would be a good choice.

Of course the best way to judge an automated peptide synthesizer is to use it. A potential buyer might ask if they could have a system set up in their facility as a demo, or if that

is not possible a visit to a site that is using the model you are interested in. It is always a good idea to ask for a number of references of customers that are currently using the synthesizer you are interested in. Another simple test would be to ask the manufacturer to synthesize one or two peptides that would be similar to the peptides you will be synthesizing. Ask for a sample of the crude peptides as well as an HPLC trace and mass spec data.

Finally the preferred chemistry should be considered. Fmoc or tBoc? DIC/HOBt or HBTU/DIEA coupling? Of course the best choice would be a synthesizer that can do all chemistries. All of CS Bio's synthesizers can handle TFA and perform all chemistries even different chemistries within the same peptide.

CS Bio offers a complete line of peptide automated peptide synthesizers. Whether you need to synthesize peptides for research (0.1 to 5.0 grams resin), for industry (0.5 to 500 grams resin) or on a manufacturing scale (50 grams to 50 kilograms resin) CS Bio has a synthesizer that will meet your needs.

CS Bio has been supplying the industry with high-quality synthesizers for over 17 years and our complete line of automated synthesizers can be found in laboratories from research organizations to manufacturing facilities worldwide.

Our medium to large-scale synthesizers are used in production and cGMP manufacturing facilities around the world. These systems are designed for easy scale-up, utilizing overhead stirring, and solvent/waste transfer pumps.

Our large scale units are fully validated for cGMP production and can come with explosion proof capabilities and ATEX certification. Our years of experience and dedication to the art of solid phase peptide synthesis have made CS Bio the worldwide leader in peptide synthesizers.



CS Bio Co.
People Who Know Peptides



ANALYTICAL SERVICES

METHOD DEVELOPMENT

- Strong method development expertise
- Small molecule and protein therapeutics
- Excel in separation technology
- Focusing on method robustness and ruggedness
- Guaranteed method transferability
- Dedication to customer service

CAPABILITIES

- Stability-indicating analytical method development
- Accelerated excipient compatibility screening
- Accelerated stress studies
- Degradation product and pathway identification
- Drug substance and product assay
- Impurity and degradation product assay
- Method validation and transfer
- Chiral separation
- Ion-pairing chromatography
- Amino acid analysis
- Peptide sequencing
- Reference standard characterization

BIOLOGICAL SAMPLE ANALYSIS (LC/MS/MS)

QUALITY

- Talented Ph.D analytical scientists
- Years of industrial experience
- Small molecule and protein capabilities
- Fast method development time
- Drug metabolite analysis
- State-of-the-art instrument: Sciex API-4000
- High throughput capacity: 96-well plate format

COMPLIANCE

- QA/QC audits
- Study inspections
- Extensive staff training
- Sample management and tracking system

ACCOUNTABILITY

- Client-oriented culture
- Fast turnaround time
- Single point contact project manager
- Flexibility to meet special requests

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CS136XT

RESEARCH SCALE PEPTIDE
SYNTHESIZERS

- Synthesis scale of 0.1 to 5.0 mmol
- Automatically dissolve powder amino acids or utilize stock amino acid reservoirs
- Utilize tBoc, Fmoc or any other peptide chemistry
- 180° inversion mixing for complete resin/solvent contact





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CS336X

RESEARCH SCALE
PEPTIDE SYNTHESIZERS

- Synthesizes three peptides simultaneously
- Synthesis scale of 0.05 to 0.5 mmol
- Ideal for research and small-scale production
- Utilizes pre-packed or user-supplied amino acids
- An excellent value for any laboratory