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Technical informations

GeneCust uses Fmoc solid phase chemistry and has the capacity to synthesize several hundred peptides simultaneously using automated peptide synthesizers. A range of different purity levels, quantities and chemical modifications are available.

How does it work ?

Peptides are chemically synthesized using Fmoc chemistry. The Fmoc method is based on an orthogonal protecting group strategy using the base-labile N-Fmoc group for temporary protection of the alpha-amino group, acid-labile side-chain protecting groups and resin-linkage agents.

Synthesis cycle

In solid-phase synthesis, the C-terminal amino acid residue of the target peptide is attached to

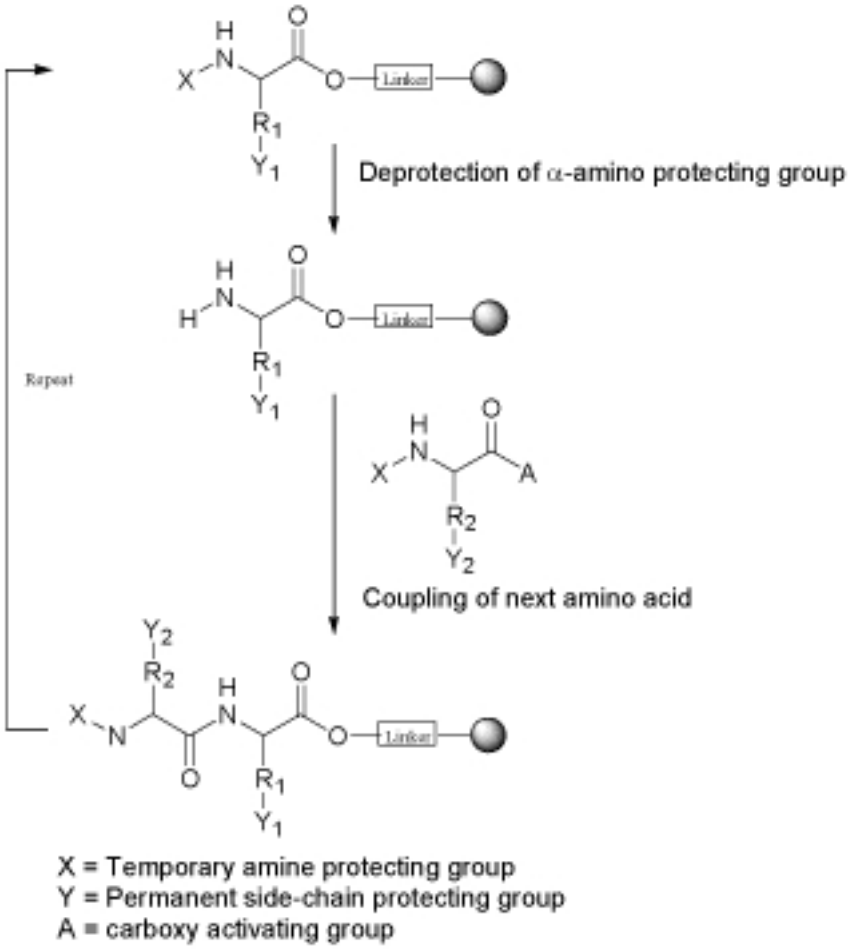
an insoluble support via its carboxyl group. The temporary protecting group masking the alpha-amino group during the initial resin loading is removed. An excess of the second amino acid is introduced. After coupling, excess reagents are removed by washing and the protecting group removed from the N-terminus of the dipeptide, prior to addition of the third amino acid residue. This process is repeated until the desired peptide sequence is assembled. See below the detail of the four reactions :

- - Step 1 : Loading of the resin : The first step is the anchoring of the N-protected C-terminal amino acid residue to the solid support via an ester or an amide bond depending on the C-terminal functional group of target peptide (respectively acid or amide). After anchoring, unreacted resin-bound hydroxyl groups should be capped by benzoic anhydride or acetic anhydride.

- - Step 2 : Fmoc deprotection : Removal of the temporary Fmoc protecting group from N-terminus of the peptidyl-resin is normally achieved by short treatment with 20% piperidine in DMF (dimethylformamide). The reaction is complete within 10 min.

- - Step 3 : Coupling reaction : A large excess of amino acid is used (typically 2-10 times excess compared to the resin functionality) with the carboxy group of this amino acids being activated for amide bond formation throught generation of an activated ester or by reaction with a coupling reagent (PyBOP, TBTU or HBTU). This excess allows a high concentration of reactants (typically 60-200 mM) to ensure effective diffusion. The time required for a complete acylation reaction depends on the nature of the activated species, the peptide sequence that is already linked to the resin, and the concentration of reagents.

- - Step 4 : Final cleavage : Concentrated trifluoroacetic acid (TFA) is widely used for the simultaneous cleavage of the peptide from the resin and removal of side-chain protecting groups.



Purification

We offer high quality peptides made by experts & delivered to you with all documents:

* HPLC chromatogram

* Mass spectra analysis

* Synthesis report

A wide range of purity levels are available :

- - Crude peptide

- - Immunograde peptide (purity >75%): the crude peptide is ether precipitated and washed several times for the complete extraction of organic impurities and to remove most secondary products. Where necessary a standard H.P.L.C. purification step is performed. This level of purity is usually sufficient for generating or testing antibodies.

- - Purified peptides (purity >85%): further purification by preparative H.P.L.C. allows the elimination of peptides resulting from incomplete coupling, i.e. peptide lacking one or more amino acids. The 85% purified peptides can be used for antiserum production, ELISA antibody titration and monoclonal antibody production.

- - Highly purified peptide (purity >95%): this level of purity is required for most biological or enzyme activity studies.

- - Purity > 98% can be performed upon request.

Quality Control / Quality Assurance

Mass spectrometry verifies peptide composition and reversed phase HPLC illustrates peptide purity. Every product we ship includes a Certificate of Analysis with complete detailed information on lot number, product information, specification and typical analysis data. The quality of our products is one of our most significant assets.

We constantly seek ways to improve our quality systems and welcome any suggestions from our customers or regulatory groups on how to do this.

Standard Peptide Synthesis

Standard Peptides

GeneCust is experienced in the synthesis of high quality peptides with various modifications. We can also provide peptides from small scale (mgs) to large scale (kgs)

* Simple to complex

* Linear to cyclized

* Long sequences peptide up to 140 mers

* From small to large scale

* Different purity level (desalted, >75%, >85%, >90%, >95%, >98% and even above 99%)

Please, fiin the menu "Price List" our prices for standard peptide synthesis.

Modified Peptides

GeneCust offers a wide variety of modifications (from biotinylation to phosphorylation, dye labeling, and much more...). A broad range of modifications is presented in the menu "Price List".

If there is a label or a modification you would like to use but you do not see here, please contact us, we may have it or we may be able to locate it for you.

Shipment and Delivery Time

The peptides are shipped lyophilized. Under normal conditions standard peptides are shipped within 3 or 4 weeks. Shipment of larger orders or modified peptides will take a few days more. Please contact us for further information about delivery times.

Shipment costs when using express mail services :

For Europe : 35,00 €

Quotations and Ordering

For quotations, please contact us at info@genecust.com. However, you may also contact us by phone **(+352 27620411)**
or fax **(+352 27620412)**.

For ordering, please download and complete our Order Form and email it to info@genecust.com.

Notice : Peptide Reagents and Related Products

GeneCust can propose you a wide range of diverse biochemicals and fine chemicals, especially peptide reagents and related products such as :

* Coupling Reagents

* Labeling Reagents

* Linkers for Solid Phase Synthesis

* N-Protecting Reagents

* Unusual Amino Acids

* Amino Acids Derivatives

* Fmoc-Amino Acids (added 17 new products)

* Z-Amino Acids

* Amino Alcohols

* N-Methyl amino acids

* Fmoc-amino acids attached to Wang Resin

* Amino acids attached to 2-Chlorotrityl-Chloride-Resin

* Resins

To learn more about our products, please select our catalog in the menu "Price List".