

# N-Terminal Acetylation and C-Terminal Amidation of Peptides

## Description

Chemically synthesized peptides carry free amino and carboxy termini, being electrically charged in general. In order to remove this electric charge, peptide ends are often modified by N-terminal acetylation (see figure 1) and/or C-terminal amidation (see figure 2).

Figure 1) Acetylated N-terminus

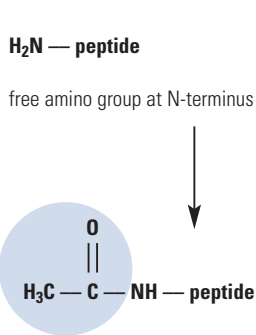
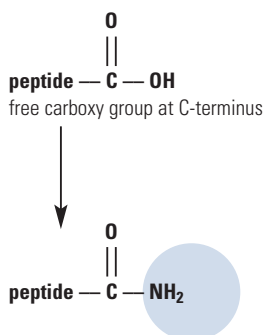


Figure 2) Amidated C-terminus



**Please note:** As both modifications require a different synthesis strategy than the standard one, the need for N-terminal acetylation or C-terminal amidation has to be stated explicitly when ordering. It is impossible to perform these modifications post-synthetic!

## Advantages

- peptide ends are uncharged, compared to standard synthetic peptides, so they mimic natural peptides; permeability of cells increases
- stability toward digestions by aminopeptidases is enhanced
- peptide ends are blocked against synthetase activities acetylated peptides serve as optimized enzyme substrates
- amidation of peptides enhances activity of peptide hormones

## Applications

- intracellular, *in-vivo* assays (e.g., microbiology)
- substrates in enzyme assays
- *in-vivo* or *in-vitro* functional studies (activity of peptides or peptidic molecules)
- ELISA assays – in order to minimize influences of charged C- or N-termini with ELISA binding characteristics

## Product offering

Both modifications are available for all peptide amounts and purities at no extra cost in the following combinations:

single modification	double modification
N-terminal acetylation or C-terminal amidation	N-terminal acetylation and C-terminal amidation

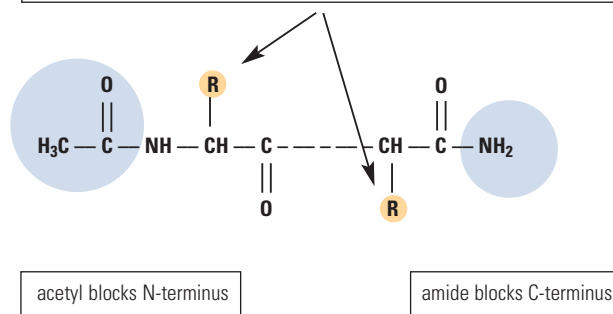
**Please note:** Both N-terminal acetylation and C-terminal amidation block the respective terminus for coupling of additional modifications, such as dyes, functional groups, etc. However, when requiring additional terminal modifications, the only possibility is to couple these modifications via a functional group within the side-chain of the N- or C-terminal amino acids (see figure 3).

Depending on the kind of modification, this terminal amino acid may vary.

Please contact [services.biopolymers@thermo.com](mailto:services.biopolymers@thermo.com) for further information.

Figure 3)

If additional modification is required, this has to be coupled via the side chain of the terminal amino acid.



Easily order via the web: [www.thermo.com/peptideorder](http://www.thermo.com/peptideorder) or via email: [sales.peptides@thermo.com](mailto:sales.peptides@thermo.com)

*In addition to these offices, Thermo Fisher Scientific maintains a network of representative organizations throughout the world.*

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