



Convenient preparation of deuterium labeled analogs of peptides containing N-substituted glycines for a stable isotope dilution LC-MS quantitative analysis.

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Streszczenie

N-substituted glycines constitute mimics of natural amino acids that are of great interest in the peptide-based drug development. Peptoids-oligo(N-substituted glycines) have been recently demonstrated to be highly active peptidomimetics in biological systems, resistant to proteolytic degradation. We developed a method of the deuterium labeling of peptidomimetics containing N-substituted glycine residues via H/D exchange of their α -carbon hydrogen atoms. The labeling was shown to be easy, inexpensive, and without the use of derivatization reagents or the need for a further purification. The deuterons introduced at the α -carbon atoms do not undergo a back exchange under acidic conditions during liquid chromatography mass spectrometry (LC-MS) analysis. The LC-MS analysis of a mixture of isotopologues revealed a co-elution of deuterated and nondeuterated forms of the peptidomimetics, which may be useful in the quantitative isotope dilution analysis of peptoids and other derivatives of N-substituted glycines.

Słowa kluczowe

HDX of peptides, peptoids, peptomers, Quantitative analysis, ESI-MS

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