

Quaternary ammonium isobaric tag for a relative and absolute quantification of peptides.

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Streszczenie

Isobaric labeling quantification of peptides has become a method of choice for mass spectrometry-based proteomics studies. However, despite of wide variety of commercially available isobaric tags, none of the currently available methods offers significant improvement of sensitivity of detection during MS experiment. Recently, many strategies were applied to increase the ionization efficiency of peptides involving chemical modifications introducing quaternary ammonium fixed charge. Here, we present a novel quaternary ammonium based isobaric tag for relative and absolute quantification of peptides (QAS-iTRAQ 2-plex). Upon collisional activation, the new stable benzylic-type cationic reporter ion is liberated from the tag. Deuterium atoms were used to offset the differential masses of an reporter group. We tested the applicability of QAS-iTRAQ 2-plex reagent on a series of model peptides as well as bovine serum albumin tryptic digest. Obtained results suggest usefulness of this isobaric ionization tag for relative and absolute quantification of peptides.

Słowa kluczowe

Derivatization of peptides, isobaric tags, Peptide sequencing

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