

Argireline: needle-free botox as analytical challenge.

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Argireline-containing cosmetics attract public interest due to their confirmed reduction of facial wrinkles. Argireline is a peptide that works by inhibiting the release of neurotransmitters in the neuromuscular junction, producing a botox-like effect. Therefore, it is used as a safe needle-free alternative to botox treatment. In this work we investigated the presence of Argireline in cosmetic creams and sera by application of reversed phase liquid chromatography and tandem mass spectrometry (RP-HPLC/MS and MS/MS). The analysis revealed the presence of argireline and its oxidized form in several different cosmetics. The methionine residue in Argireline sequence was indicated as oxidation point according to neutral loss MS studies. The developed sample preparation strategy minimizes and monitors methionine oxidation, bringing to our attention the question of impact of ingredients on the stability of cosmetic product.

Słowa kluczowe

amino acids, anti-wrinkle cosmetics, argireline, cosmeceutical peptides, high resolution mass spectrometry, mass spectrometry, methionine oxidation, peptides

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