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Characterization and identification of a C-terminal amidated mechano growth factor (MGF) analogue in black market products

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Abstract

Mechano growth factor (MGF) is a splice variant of insulin-like growth factor that possesses anabolic properties and has not yet been approved for therapeutic use. In this work, two preparations from the black market containing an unknown MGF analogue were characterized. Mass spectrometry characterizations of unknown preparations and reference human MGF were performed on an Exactive Orbitrap and triple quadrupole mass spectrometers after liquid chromatography. The products from the black market were both identified as C-terminal amidated analogues of human MGF. Additionally, low resolution MS/MS characterization revealed a potentially diagnostic transition (m/z 717.8 \rightarrow 431.1) for the detection of C-amidated MGF and discrimination from the endogenous form.

For the complete paper, please refer to:

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