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论文

高活性燕麦蛋白源ACE抑制肽的制备、纯化及结构鉴定

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摘要:

利用胰蛋白酶水解燕麦蛋白制备了高血管紧张素转化酶(Angiotensin I-Converting Enzyme, ACE)抑制活性的燕麦蛋白酶解物, 分别采用离子交换色谱、凝胶过滤色谱和反相高效液相色谱等分离手段从酶解物中分离出一种新的强活性ACE抑制肽, 其IC₅₀值为77.3 μmol/L; 通过基质辅助激光解析电离飞行时间串联质谱对其进行结构鉴定, 其氨基酸序列为Glu-Gly-Gly-Tyr-Arg.

关键词: 燕麦蛋白; ACE抑制肽; 制备及纯化

Preparation, Purification and Structure Identification of Angiotensin I Converting Enzyme Inhibitory Peptide with High Activity from Oat Protein

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Abstract:

Oat protein hydrolysate showing strong angiotensin I converting enzyme(ACE) inhibitory activity was prepared by enzymatic hydrolysis with trypsin. Furthermore, a novel peptide with the IC₅₀ value of 77.3 μmol/L was isolated from the hydrolysate using consecutive chromatographic methods including ion-exchange chromatography, gel filtration chromatography, and reversed-phase high-performance liquid chromatography. The peptide was identified by matrix assisted-laser desorption/ionization time-of-flight tandem mass spectrometry as Glu-Gly-Gly-Tyr-Arg.

Keywords: Oat protein; ACE inhibitory peptide; Preparation and purification

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