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基础研究和新技术

Aβ多肽与铜锌金属离子非共价复合物的电喷雾质谱研究

晋文慧[1];王海燕[2];韩大雄[1]

1. 厦门大学医学院药学系，福建 厦门 361005 2. 国家海洋局第三海洋研究所，福建

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摘要

关键词

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Investigation of Non-Covalent Complexes of Amyloidβ-Peptide and Cu^{2+}, Zn^{2+} by Electrospray Ionization Mass Spectrometry

JIN Wen-hui[1], WANG Hai-yan[2], HAN Da-xiong[1]

1. Department of Pharmacy, Medical College of Xiamen University, Xiamen 361005, China;
2. Third Institute of Oceanography of State Oceanic Administration, Xiamen 361005, China

Abstract Cu^{2+} and Zn^{2+} ions were reported to be able to induce Aβ aggregation at nearly physiological concentrations in vitro and related to the pathogenesis of Alzheimer's disease. The smaller peptides including Aβ(1-28) was chosen as the target peptide, which helped define the nature of the interaction of the full length peptide. And we studied the influences of the different conditions including the pH, temperature, apparatus conditions, concentration on the impact of complex of Zn^{2+}, Cu^{2+} and Aβ. Our findings by the studies of ESI-MS revealed the stoichiometry of 1:1 for the peptide-metal complexes, and to bind up to four cations upon increasing the metal concentration.

Key words amyloid β-peptide _ metal binding _ ESI-MS _ competitive substitution

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