New hypothesis on amino acid complementarity and its evaluation on TGF-β_2-related peptides.

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Streszczenie

A new hypothesis of amino acid complementarity based on the genetic code periodicity is presented and evaluated on the peptide pairs composed of the fragments of TGF-beta(2) protein (YIGKTPKI and YYIGKTPKIE) and corresponding complementary peptides [IYPLC(Acm)GLY, IIYTLWGLYL, IIYPLC(Acm)GLYL and IIYTLC(Acm)GLYL]. The ESI-MS and CD methods were used for monitoring of the complexation. It was found that heterodimeric structures are formed between the peptides and complementary peptides. No complexation appears in solutions of single components of the systems, nor in solutions containing the mixtures of TGF-beta(2) peptides or complementary peptides. CD measurements suggest that the conformation of peptides needed for complex formation is of the beta-structure type. The binding forces, which stabilize the complexes, consist mainly of hydrophobic interactions.

Adres publiczny

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