Rippled Beta-Sheets From Mixed Chirality Linear And Cyclic Peptides

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BACKGROUND

Researchers at UC Santa Cruz have expanded the knowledge on the rippled β-sheet, a protein structural motif formed by certain racemic peptides. Rippled β-sheets already show potential for Alzheimer's research and drug delivery and leads to formation of hydrogels with enhanced properties. Researchers at UC Santa Cruz have further added to the structural foundation of rippled β-sheets, better understanding how rippled β-sheet formation can be controlled at the molecular level.

TECHNOLOGY DESCRIPTION

This patent includes new methods of forming rippled β-sheets. These methods are based on the discovery, among others, that rippled β-sheets can form from single-component systems composed of joined segments of L and D chirality. Instead of mixing L and D peptides, L and D units are first connected to each other. Rippled β-sheet formation can occur with both cyclic and linear systems.

APPLICATIONS

- materials design
- drug development
- Alzheimer's research

ADVANTAGES

- simplifies rippled beta-sheet self-assembly

INTELLECTUAL PROPERTY INFORMATION

Patent Pending

RELATED MATERIALS

- Formation of rippled ß-sheets from mixed chirality linear and cyclic peptides—new structural motifs based on the pauling-corey rippled ß-sheet - 03/06/2025

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OTHER INFORMATION

KEYWORDS

rippled beta sheets, amyloid, fibril, peptide, chiral

CATEGORIZED AS

- **Materials & Chemicals**
  - Biological
  - Chemicals
- **Medical**
  - Disease: Central Nervous System
  - Research Tools
- **Research Tools**
  - Other

RELATED CASES

2025-912-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Design Of Functional Protein Materials Based on Beta-Rippled Sheet Architectures
- Rippled Beta-Sheets and Related Materials and Methods