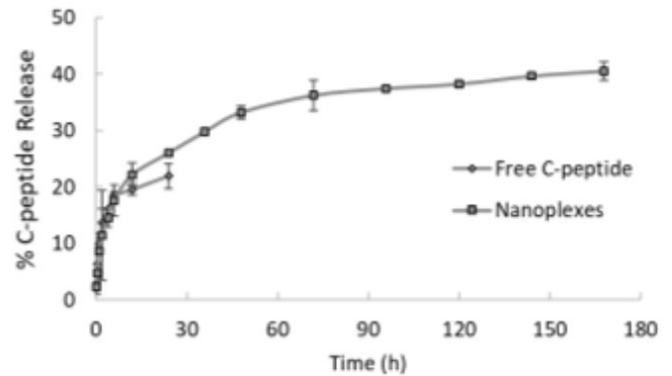


PENDING**(IN202311047523)**

Formulation of peptide nano-complexes for delivery of peptide and method of preparation



NEED

Current peptide drug delivery faces 70% degradation before reaching target sites, wasting billions in therapeutic potential. Fragile peptides break down in blood, causing treatment failures, prolonged illness, and up to 40% higher medical costs.

TECHNOLOGY OVERVIEW

This technology presents a peptide nano-complex formed by electrostatic interaction between cationic polymer nanospheres and negatively charged peptides. It stabilizes delicate peptides at neutral pH, improving delivery efficiency, bioavailability, and therapeutic outcomes without requiring harsh preparation conditions or toxic carriers.

TECHNOLOGY KEY FEATURES

Stable nano-complex formation at neutral pH using polyethylene carbonate polymers, protecting peptides from degradation, enabling 50–300 nm size-controlled delivery, enhancing bioavailability, and avoiding harsh chemical cross-linkers or solvents.

[Read more here](#)

MARKET ANALYSIS

The global peptide therapeutics market is expected to reach \$84.5 billion by 2033, growing at a CAGR of 7.5%, driven by chronic disease treatment demand, targeted therapies, and biocompatible delivery systems. [Source: Precedence Research, 2024]

Target Industries

Biopharmaceuticals, Drug Delivery Systems, Regenerative Medicine, Controlled drug delivery developers, advanced formulation research centers, targeted therapy enablers for peptide-based biologics.

AT A GLANCE

- SDG 3 (Good Health and Well-being), SDG 9 (Industry, Innovation, and Infrastructure), SDG 12 (Responsible Consumption and Production)

Technology is available for licensing/ co-development.

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