Enhanced XNA Aptamers for Therapeutic and Diagnostic Applications

Tech ID: 33952 / UC Case 2021-774-0

BRIEF DESCRIPTION

This technology introduces a novel class of synthetic genetic polymers, capable of enhancing protein target binding and mimicking antibodies, for therapeutic and diagnostic applications.

FULL DESCRIPTION

The invention introduces a groundbreaking approach to increase the biological stability and binding affinity of XNA (xeno nucleic acid) molecules. By incorporating base modified side chains that mimic amino acid residues, this method enhances the interaction between XNA aptamers and their protein targets, akin to antibody-antigen interactions. This advancement opens new avenues for the development of highly specific and stable therapeutic and diagnostic agents.

SUGGESTED USES

- Development of next-generation therapeutic agents.
- Creation of highly specific diagnostic tools.
- Research and development in personalized medicine.
- Biotechnological advancements in drug discovery and development.

ADVANTAGES

- Increased biological stability of XNA molecules.
- Enhanced specificity and affinity towards protein targets.
- Potential to mimic antibody-antigen interactions closely.
- Broad applicability in therapeutic and diagnostic agent development.

PATENT STATUS

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Reference for National Filings	WO 2023/009898	02/02/2023	2021-774

Patent Pending

RELATED MATERIALS

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OTHER INFORMATION

CATEGORIZED AS

- **Medical**
  - Diagnostics
  - Therapeutics
- **Research Tools**
  - Nucleic Acids/DNA/RNA

RELATED CASES

2021-774-0

» Functionally Enhanced XNA Aptamers Discovered by Parallelized Library Screening. Adriana Lozoya-Colinas, Yutong Yu, and John C. Chaput. Journal of the American Chemical Society 2023 145 (47), 25789-25796 DOI: 10.1021/jacs.3c09497

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