A Fluorescence Reverse-Transcription Assay To Detect Chemical Adducts On RNA

Tech ID: 34181 / UC Case 2022-992-0

BRIEF DESCRIPTION

A novel RT assay for detecting chemical adducts on RNA, utilizing fluorescence quenching to indicate the presence of modifications.

FULL DESCRIPTION

This technology introduces a reverse transcription (RT) assay optimized with a fluorescence quenching protocol to directly detect chemical adducts on RNA molecules. By employing a phenylacrylamide model compound, it demonstrates the ability to identify N1-alkylation of inosine, a significant post-transcriptional modification. The assay's versatility allows for the expansion to detect various adducts across RNA sequences, offering insights into the relationship between RT processivity and RNA modifications without the need for expensive RNA sequencing.

SUGGESTED USES

· Research tools for molecular biology and genetic engineering.

· Diagnostic assays for detecting RNA modifications in clinical samples.

· Drug discovery and development, particularly in identifying RNA-targeting compounds.

· Academic research into RNA biology and post-transcriptional modifications.

ADVANTAGES

· Direct detection of chemical adducts on RNA without sequencing.

· Utilizes fluorescence quenching for easy lab readouts.

· Applicable to any RNA, irrespective of sequence.

· Offers a cost-effective alternative to RNA sequencing.

· Potential to explore RT processivity and natural RNA modifications.

PATENT STATUS

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Reference for National Filings	WO 2024/006991	01/04/2024	2022-992

Patent Pending

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OTHER INFORMATION

KEYWORDS

reverse transcription, covalent ligand, fluorescence quenching

CATEGORIZED AS

» **Medical**
» Research Tools
» **Research Tools**
» Expression System
» Nucleic Acids/DNA/RNA

RELATED CASES

2022-992-0

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