



Nuclease Inhibitors and Methods for Their Use

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing polymers that inhibit nucleases, particularly ribonucleases. These polymers of vinyl sulfonate (PVS) could be applied to beads, filters, coatings and other surfaces to preserve SARS-CoV-2 for diagnostic and research purposes.

Overview

Biochemical research and biotechnology rely on nucleic acids; however, nucleic acids frequently encounter nucleases that can negatively affect experiments. Although nuclease inhibitors are often used *in vitro* to mitigate damage to RNA and other nucleic acids, existing inhibitors suffer from several drawbacks.

The Invention

UW-Madison researchers have identified a class of anionic oligomers and polymers that inhibit nucleases, particularly ribonucleases. The inhibitors are polymers of vinyl sulfonate. When nucleases are brought into contact with them *in vitro*, the polymers are capable of reversibly inhibiting or inactivating the nucleases. The researchers also have developed a method for purifying commercial buffers of these inhibitors.

Applications

- Removing undesired ribonucleases and deoxyribonucleases, as well as nucleic acid-binding proteins, from biological media
- Preserving SARS-CoV-2 for research and diagnosis of COVID-19

Key Benefits

- Can be attached to surfaces for removal of nucleases from media, solutions, or other liquids in contact with the solid surface
- Extremely stable and simple to prepare

Additional Information

Related Intellectual Property

- [View Continuation Patent in PDF format.](#)

Tech Fields

- [Research Tools : DNA & RNA tools](#)
- [Research Tools : Other research tools](#)

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