



Supraphysiological Fibrin Content Microparticles

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Inventors:

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Patent Status:

Patent Pending

Description of Technology

Fibrin is a provisional protein matrix that is involved in the clotting of blood. Fibrin forms at the sight of injury, or in the blood in response to stress. In situations where increased blood clotting is needed, supraphysiological levels of fibrin are needed. Currently, the best way to provide supplemental blood clotting is with sonicated fibrin. Sonication is the process of applying sound energy to agitate particles in a sample to extract specific compounds. The sonicated fibrin contains particles of various size and dimensions resulting in poor mechanical properties that limits their consistency and utility in research applications.

Researchers at the University of Wyoming have invented a new way to generate fibrin using a microfluidic droplet generator. The generator creates consistently-sized microparticles with robust mechanical properties. Proof of concept particles have already been made with this technology. The microparticles can be used in heart disease, stroke and other thrombosis related conditions research due to repeatability and good sound mechanical properties.

Applications

For patients on blood thinners or other types of medications that prevent blood from clotting, supplemental methods are needed. This microparticle technology presents a way to provide effective clotting so patient-to-patient repeatability and lab test consistency is possible.

Features & Benefits

- Consistently-sized particles
- Robust mechanical properties
- Makes consistently repeating results possible

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