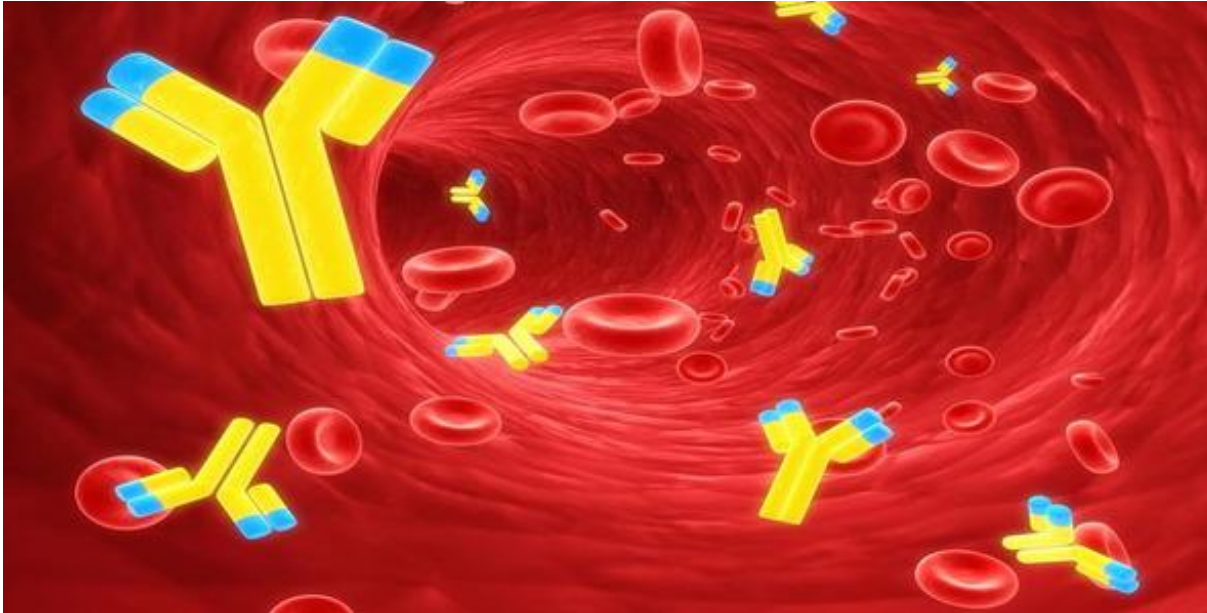




## Encapsulated Microbubbles to Process Biological Samples



Researchers at the University of North Carolina at Chapel Hill have developed methods employing encapsulated microbubbles and a conventional sonication process to reduce the time required to efficiently shear DNA. The present invention also affords cell lysis and tissue dispersion.

### Benefits

- Consistent DNA shearing for any type of cell
- Efficient and rapid shearing of DNA that has been formaldehyde crosslinked
- Cost effective
- Applicable to perform cell lysis and tissue dispersion



## For More Information

If you would like more information about this technology or UNC - Chapel Hill's technology transfer program, please contact:

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## The Technology

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DNA shearing is typically performed using a probe-based or acoustic sonicator. These methods are time consuming and often produces inconsistent results. DNA extracted from cells or tissue must be optimized each time in order to ensure that DNA is fragmented to the desired size. For crosslinked DNA, monitoring fragment size involves overnight incubation, thus optimization can take multiple days for each sample type. A method providing consistent and rapid shearing, independent of cell or tissue type, would be very valuable.

There are few methods available to increase DNA shearing efficiency. Researchers at UNC have developed a method utilizing encapsulated microbubbles for rapid and efficient biological processing. The technology includes the encapsulated microbubbles that might be provided in a kit.

Applications of this technology include shearing formaldehyde crosslinked DNA for techniques such as chromatin immunoprecipitation and FAIRE, shearing genomic DNA for high throughput sequencing applications, tissue dispersion, and removal of formaldehyde crosslinked cells from 96-well tissue culture plates.

## Opportunity

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UNC's Office of Technology Development seeks to stimulate development and commercial use of UNC-developed technologies. UNC is flexible in its agreements, and opportunities exist for joint development, academic or commercial licensing (exclusive, non-exclusive, and field-of-use), publishing, or other mutually beneficial relationship. UNC is pursuing intellectual property protection for this innovation.