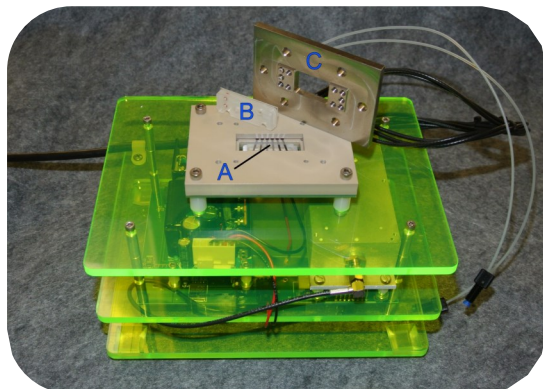


Exceptional service in the national interest**CleanBurst™ System**

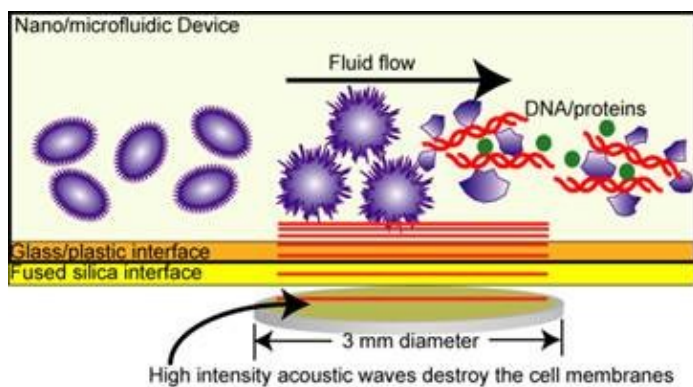
CleanBurst™

Rapid Acoustic Lysis for Point-of-Care Diagnostics

Most biosensors in today's market and in R&D require a critical sample preparation procedure prior to analysis of cellular contents such as nucleic acids and proteins. Technology is needed to release the cellular contents in a format compatible with nano/microfluidic and Point-of-Care (POC) devices.

Sandia National Laboratories has developed a miniature cell lysis system to overcome the limitations of current extraction methods. This system utilizes high-frequency compression waves with a wavelength similar to the size of cells, resulting in more efficient energy transfer. Unlike commercial acoustic transducers, our technology does not generate significant amounts of heat, making it compatible with protein assays. This technology releases viable DNA, RNA, and proteins from human or bacterial cells, without chemicals or additional processing, to enable high-speed sample preparation for clinical point-of-care (POC) medical diagnostics and use with nano/microfluidic devices.

How It Works



High-intensity acoustic waves leave the transducer and propagate into the fluid region of the nano/microfluidic device. Cells entering this region are lysed.

For more information please contact us at ip@sandia.gov
or visit our website: <https://ip.sandia.gov>.

Technology Benefits

No harsh chemicals
or purification

Generates PCR-
ready DNA

Portable and
reusable

Suitable for difficult
bacteria

Potential Applications

Rapid DNA testing

Lysing of Resilient
Cells

Species-specific
drug prescriptions

Same-day
pathogen diagnosis



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