

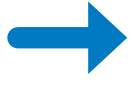
New Product...

Application: Liposome Formation—Scalable from Bench Top Discovery through Pilot Scale

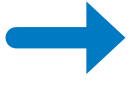


Before

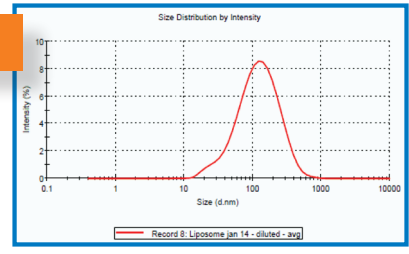
Phospholipon – 90G
10mg/ml in water 40°C



Covaris AFA Process Technology (bench-top system)



After



Average particle size <100nm
Single population
PDI < 0.28

SITUATION

Liposome-based delivery systems need a controlled, repeatable method of forming a mono disperse population. Current methods are difficult to scale to small volumes, and/or stress the target compound via heat and severe mechanical stress, which degrades the active ingredients.

Flow Systems

- Mono disperse populations
- Temperature controlled processing
- Contamination free
- Controlled particle size
- Repeatable and Scalable

CURRENT TECHNOLOGY LIMITS

Technology	Covaris AFA	Microfluidizer	Self Assembling	Sonication
Heat	Sub Zero to 40°C	50-100°C	60-100°C	High temperatures Random hot spots >100°C
Labor/Skill	Low	High	High	High
Wastage	Minimal	High	Medium	Medium
End product	Homogenous	Homogenous	Homogenous	No
Pressure	NO	High 24000-28000psi	NO	NO
Closed vial Process	YES	NO	NO	NO
Cross contamination	NO	YES	YES	YES
Isothermal Processing	YES	NO	NO	NO
Precise Energy Control	YES	NO	NO	NO
Non Contact processing	YES	NO	NO	NO
Heat damage to sample	NO	YES	YES	YES
Repeatable without error	YES	NO	NO	NO
Self Sterilizing	YES	NO	NO	NO

COVARIS SOLUTION

Key Features	Benefits
■ Isothermal	✓ Eliminates molecular damage by maintaining isothermal sample temperatures
■ High control / reproducibility	✓ Standardized application of industry-proven AFA technology ✓ Less subjective operator influence / automated processing
■ Scalable	✓ From small scale bench-top screening through clinical studies (microliters to 50+)
■ Rapid	✓ Improve processing performance ✓ Fits within other processing steps to enable continuous workflows ✓ Can be automated for labor free operation
■ Closed non-contact	✓ Minimizes impurities or risk of contamination with disposable wetted surfaces



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