

Atrandi Biosciences Flux System Single Microbiome Pilot Study Announcement

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The new **Atrandi Biosciences Flux System** in the ICBR Gene Expression & Genotyping Core is well suited for bacterial single-cell studies because it addresses key technical barriers in microbiology through its proprietary Semi-Permeable Capsule (SPC) technology. This platform enables the high-throughput isolation of approximately 10,000 individual microbial cells while preventing cross-contamination and facilitating efficient reagent exchange during complex, multi-step workflows. As a result, researchers can gain deeper insights into mechanisms such as antibiotic resistance and identify rare but clinically or environmentally important microbial subpopulations. In addition, single-cell analysis provides a more comprehensive and accurate view of bacterial function, revealing hidden diversity, heterogeneity, and cellular behaviors that cannot be detected through conventional bulk analyses. ICBR is announcing an opportunity for UF investigators to evaluate this new platform. As part of the Pilot Study Award, the ICBR Gene Expression & Genotyping Core will provide library construction services targeting up to 10,000 cells and DNA sequencing targeting a total of 50,000 reads per cell free of charge. Pilot Project awardees will be responsible for purchasing the necessary reagents from Atrandi for preparing the cells. Note these reagents will be available at a 15% discount. Researchers will be responsible for optimization of bacterial lysis conditions for their specific organisms and samples.

Investigators may choose one of the following options:

- Four samples, targeting approximately 2,500 cells per sample, suitable for absolute abundance analysis and strain-level screening for targeted gene or marker characterization.
- Two samples, targeting approximately 5,000 cells per sample, suitable for niche profiling and localized discovery.
- One sample, targeting approximately 10,000 cells, suitable for rare variant detection and macro-community mapping.

In addition, all applicants will receive a 15% discount on Atrandi Biosciences reagents.

Proposal Submission Requirements

Please submit a one-page research proposal describing the objectives, significance, experimental design, and anticipated outcomes of the proposed study.