Mitochondria and Metabolism Core

Overview
The Mitochondrial and Metabolism Core supports mitochondrial research for both academic and industry users. The Core specializes in mitochondrial bioenergetics, providing guidance and services focused on mitochondrial bioenergetic functions, including respirometry and ATP production, as well as imaging of mitochondrial mass, membrane potential and reactive oxygen species. In addition to full service offerings and technical training, the Mitochondria and Metabolism Core is committed to providing technological resources as well as educational opportunities to further mitochondrial awareness and knowledge to the scientific community.

Core Resources
- Three XF96 Seahorse Extracellular Flux Analyzers
- PerkinElmer Operetta High Content Imaging System
- Staff to provide full service assays, technical training on instrumentation, and guidance designing assays, troubleshooting, analyzing data, and interpreting results

Services Available
- **Respirometry**: Extracellular Flux Analyzers are available for respirometry assays in intact cells and spheroids, permeabilized cells, and isolated mitochondria. These assays can be used to quantify mitochondrial ATP production, maximal capacity of the respiratory chain and the level of uncoupling. These assays are normally used to decipher the mechanism of mitochondrial dysfunction.
- **Imaging**: High content imaging is available for the measurement of mitochondrial membrane potential, mitochondrial mass, and reactive oxygen species. Additionally, the Operetta imaging system can be scheduled and used for other imaging applications outside of assessing mitochondrial function.
- **Full Service Offerings**: The Core can undertake every aspect of the performing respirometry and imaging assays. Core staff will culture cells or isolate mitochondria, prepare and perform compound treatments, run assays, analyze data and provide results in a comprehensive report.
- **Consultation**: Experts in a vast range of topics related to mitochondrial function are available to provide consulting related to study design, troubleshooting technical problems, method development, and data interpretation.
- **Training**: Training is routinely provided for use of both the Extracellular Flux Analyzers and the High Content Imaging System. Additionally, guidance on assay design, data analysis and interpretation is provided for users.

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