



PHENOVISTA

# READY-2-GO MITOCHONDRIAL HEALTH ASSAY SERVICE

## BACKGROUND

Mitochondrial membrane potential is indispensable to supporting ATP synthesis, ROS generation, and calcium uptake/storage. Membrane depolarization is an essential indicator of mitochondrial dysfunction, which is increasingly implicated in drug-candidate attrition and post-market withdrawals in myriad disease areas.

## THE CHALLENGE

Each year, dozens of treatments are withdrawn from the market because they are found to have adverse effects on mitochondrial health that were not identified during preclinical or clinical testing. This late-stage failure and insufficient understanding of the impact that these withdrawn drugs have on mitochondria can lead to exorbitant sunken costs that may have been avoided by screening specifically for mitochondrial toxicity and dysfunction early in development.

## KEY FEATURES

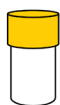
- Multiplexed measurements of both mitochondrial function and localization
- Only 4-6 weeks from assay to report
- Ability to bundle R2G assay services or transition to more complex, bespoke assay services with the same service provider

## THE SOLUTION

Our Ready-2-Go Mitochondrial Health Assay Service gives you early assessment of changes in mitochondrial health, so you can get a better understanding of the potential side effects of your drugs early in your drug-development campaign. Combining this with our Ready-2-Go Cell Health Assay Service provides you with a general toxicity framework of your therapeutic candidates that can save you time and money.

## PROCESS OVERVIEW

Thaw cells



Grow cells



Set up cell assay

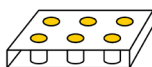


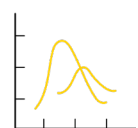
Image cells



Analyze images



Report out

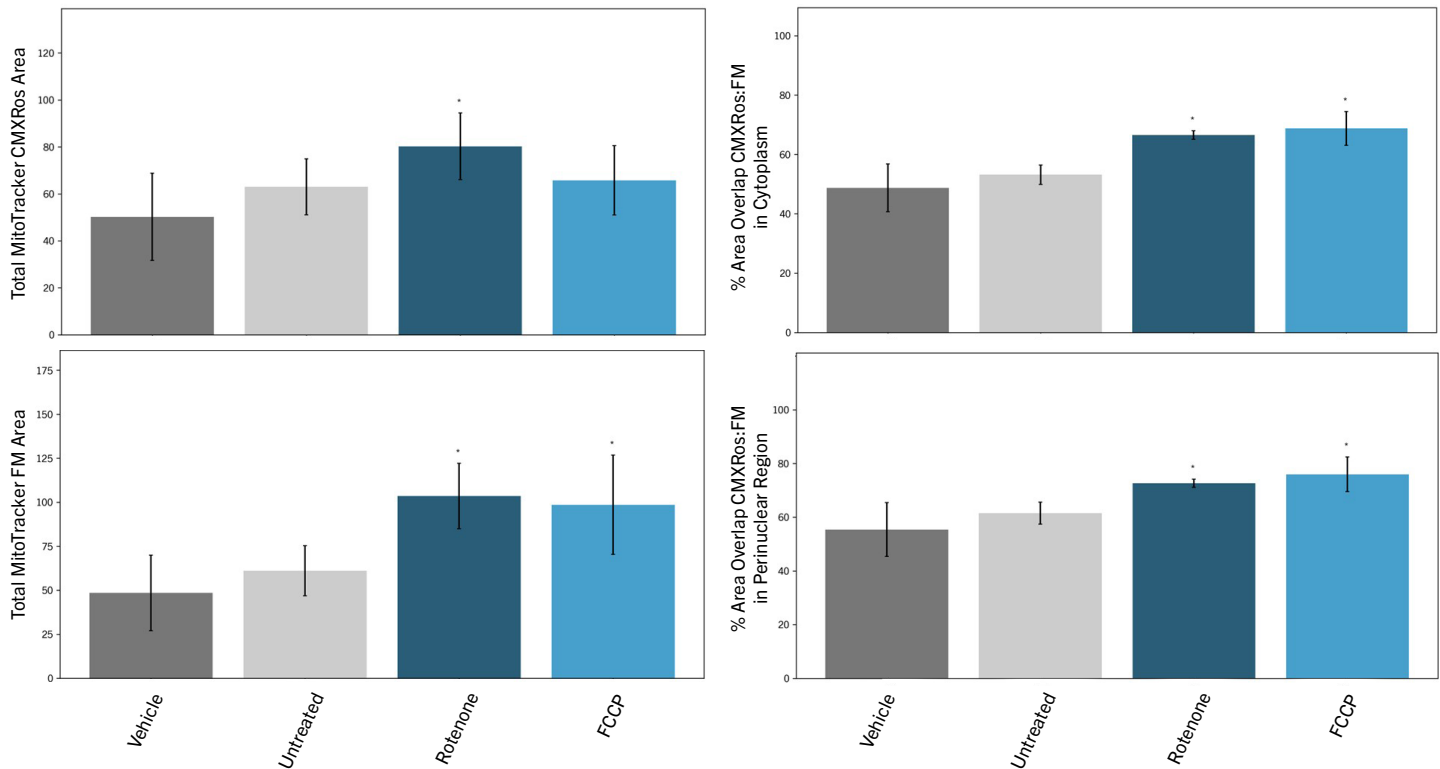
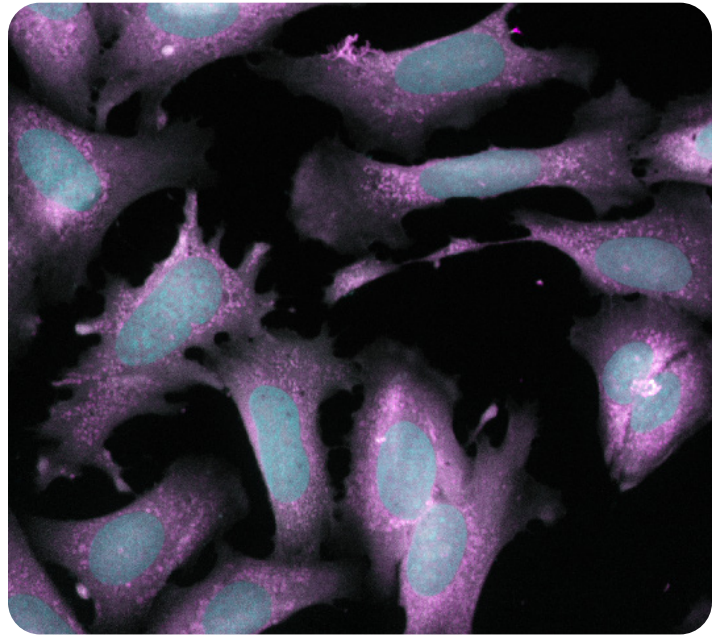


## ASSAY OUTLINE

Cells are cultured and treated with known mitochondrial stressors alongside your test articles. Cells are fixed and stained for imaging at various time points, and the images are analyzed and assessed for changes in mitochondrial membrane potential and subcellular localization induced by the treatments.

*Representative Images: A549 cells after treatment with DMSO (vehicle) or mitochondrial stressors FCCP and rotenone.*

*Quantitative analysis of images shows changes in total mitochondrial area, subcellular localization, and membrane potential. Statistical significance was calculated against vehicle.*



Ready-2-Go Mitochondrial Health	
Cells	Choice of A549, U-2 OS, or Hep G2 cells
Markers	Nuclei, MitoTracker FM, MitoTracker CMXRos
Dosing	6 doses of each of your test articles
Positive Controls	FCCP and rotenone
Negative Control	Vehicle(s)