ILLUMINATING DISCOVERY®

Real-time fluorescence plate reader-based *in vitro* cell based assay kits

MitoXpress® Stress Test

Mitochondrial Stress Test

- **Complete profile of mitochondrial respiration under basal and stressed conditions**
- **Companion kit for use with Luxcel Biosciences' MitoXpress® Xtra Oxygen Consumption Assay**
- **Convenient evaluation of mitochondrial function**
- **All metabolic modulators and signal controls included for consistent results**

Oxygen Consumption measurements have become a key functional readout of cell metabolism and mitochondrial function, providing important insights into the cell function and role of perturbed metabolism in disease progression. These measurements are easily performed in standard microplates using Luxcel's MitoXpress® Xtra Oxygen Consumption Assay. While measurements of Basal Oxygen Consumption alone are very informative, additional information can be gleaned from assessing parameters such as Basal Respiration, Maximal Respiration, Spare Respiratory Capacity, ATP-Coupled, Non ATP-Coupled and Non-Respiratory Oxygen Consumption. These parameters are now conveniently measurable on conventional fluorescence plate readers with the development of Luxcel's MitoXpress® Xtra Stress Test. Designed for use in combination with MitoXpress® Xtra Oxygen Consumption Assay, the MitoXpress® Stress Test contains all metabolic modulators required to characterise the main parameters of mitochondrial function in live cells. Compounds are provided pre-weighed for convenient handling and reproducibility. A detailed protocol is provided to facilitate easy and reproducible data generation and interpretation.

Using this kit in conjunction with the MitoXpress® Xtra Oxygen Consumption Assay you can easily measure:

- Basal Respiration
- ATP-Coupled Oxygen Consumption
- Non ATP-Coupled Oxygen Consumption or 'Proton Leak'
- Non-Respiratory Oxygen Consumption
- Maximal Respiration
- Spare Respiratory Capacity

A major advantage of using Luxcel Biosciences' kits is that they are designed for use with most fluorescence plate readers and standard 96- and 384-well microtitre plates!

- NO in lab waiting time for specialised equipment to become available and NO capital expenditure required.

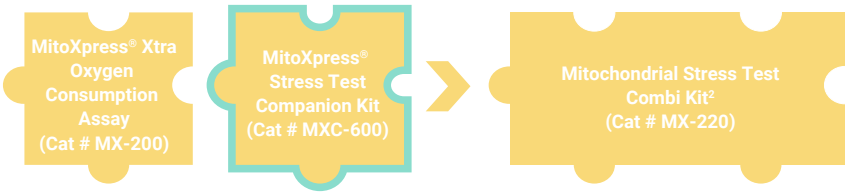
Luxcel's MitoXpress® Stress Test contains all the tools necessary to extend Luxcel Biosciences MitoXpress® Xtra Oxygen Consumption Assay for the additional evaluation of the main characteristics of mitochondrial function. It includes Oligomycin as an Inhibitor of ATP-linked Oxygen Consumption, FCCP as an uncoupler to increase Mitochondrial Oxygen Consumption and Antimycin A to discriminate Respiratory from Non-Respiratory Oxygen Consumption.

MitoXpress® Stress Test Kit

Catalogue No. MXC-600[1]
Kit Component Details

MXC-600 Kit Components	Item	Description
Oligomycin	1 vial	Inhibits F_1/F_0-ATPase
FCCP	1 vial	Uncouples ETC and F_1/F_0-ATPase activity
Antimycin A	1 vial	Inhibits mitochondrial oxygen consumption
Glucose Oxidase	1 vial	Cell-free signal control
Full User Manual	1X	Detailed instructions on set up and data analysis

[1] The MitoXpress® Stress Test is a companion kit for use in combination with MitoXpress® Xtra Oxygen Consumption Assay (MX-200) The kits are available separately or as a combination kit delivered together for convenience.



[2] Mitochondrial Stress Test Combi Kit includes both MitoXpress® Xtra Oxygen Consumption Assay & MitoXpress® Stress Test

Real-time oxygen consumption measurement

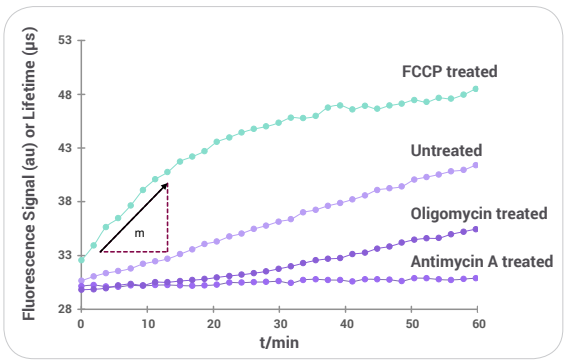
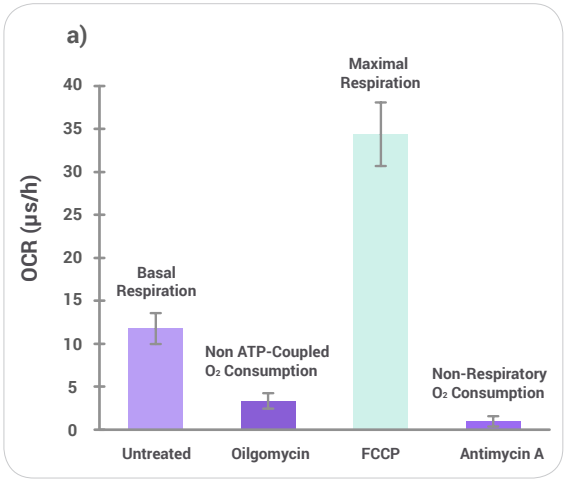


Figure 1: Signal Profiles of cellular oxygen consumption of live cells obtained using the MitoXpress® Stress Test in combination with the MitoXpress® Xtra Oxygen Consumption Assay. Slopes calculated from these Signal Profiles reflect the oxygen consumption under the stress conditions imposed by the kit components and are used to determine the key characteristics of aerobic respiration as shown in Figure 2.

Full mitochondrial characterisation – at a glance



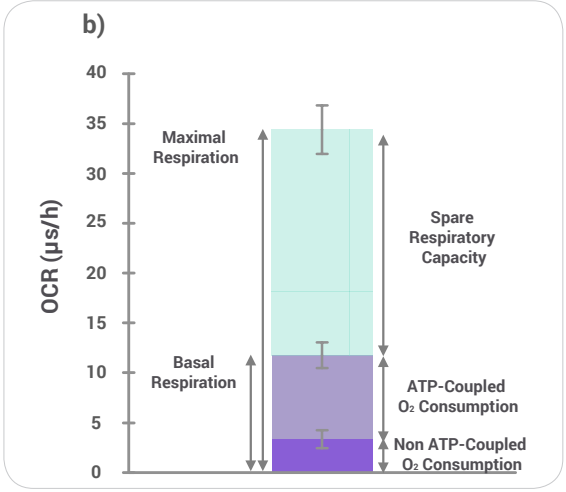


Figure 2: Full characterisation of mitochondrial function using the MitoXpress® Stress Test in combination with the MitoXpress® Xtra Oxygen Consumption Assay. a) The slopes (m) from the linear portion of the Signal Profile from each Stress Test condition reflect Basal Respiration, Non ATP-Coupled Oxygen Consumption, Maximal Respiration and Non Respiratory Oxygen Consumption. ATP-Coupled Oxygen Consumption and Spare Respiratory Capacity are calculated from these values as described in detail in the in the MitoXpress® Stress Test Manual. b) The proportion of each of these discrete metabolic processes to the Maximal Respiration can be conveniently visualised producing a detailed picture of aerobic metabolism.