



ILLUMINATING DISCOVERY[®]

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

MitoXpress[®] Intra Intracellular Oxygen Assay

Real-time monitoring of intracellular
oxygen concentration



- Quantitative assessment of intracellular oxygen concentration
- Measures transient and rapid changes in cellular oxygenation
- Compatible with 2D and 3D *in vitro* models
- Oxygen-sensitive cell-penetrating nanoparticle probe.

Intracellular oxygen levels significantly influence cellular physiology, redox state and metabolism. Altered with altered oxygen availability is involved in several pathological states, such as cardiovascular diseases, cancer and stroke. Luxcel Biosciences' MitoXpress[®] Intra Intracellular Oxygen Assay

allows researchers to gather quantitative real-time information on the oxygen concentration within 2D and 3D *in vitro* models across multiple samples, thus providing access to a critical parameter in the study of hypoxia which is beyond the capacity of extracellular sensing methodologies.

Using MitoXpress® Intra Intracellular Oxygen Assay you can easily:

- Determine the oxygen concentration that your cells are actually experiencing in culture
- Investigate the interplay between cellular oxygenation & metabolism
- Determine cellular oxygenation under hypoxic conditions and upon drug treatment
- Identify appropriate environmental oxygen concentration when conducting experiments where a defined intracellular oxygen concentration is crucial

Simple “mix-and-measure” protocol allows multiparametric analysis with a range of other kits, for example PH-Xtra™ Glycolysis Assay and 3rd Party assays for ROS, MMP and ATP.

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.

MitoXpress® Intra Intracellular Oxygen Assay

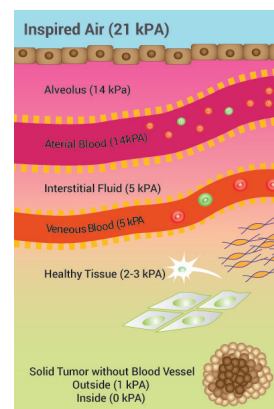
Catalogue Number MX-300
Kit Component Details

Component	Item	Description
MitoXpress® Intra reagent	1 vial	Oxygen-sensitive, cell-penetrating nanoparticle
User Manual	1	Detailed instructions on assay set-up and data analysis

REFERENCES

Chapple SJ *et al.*, Free Radical Biology and Medicine, 2016; 92: 152-162

Schematic illustration showing changing oxygen tension in tissues.



Monitoring oxygen concentration within cells

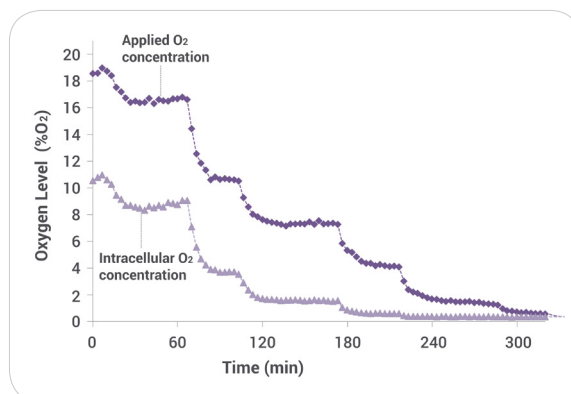


Figure 2: Monitoring oxygen concentration in samples containing 3D Hep2 cells in response to decreasing atmospheric oxygen conditions. Note the difference between applied and intracellular oxygen.

Sample cellular oxygenation upon compound treatment

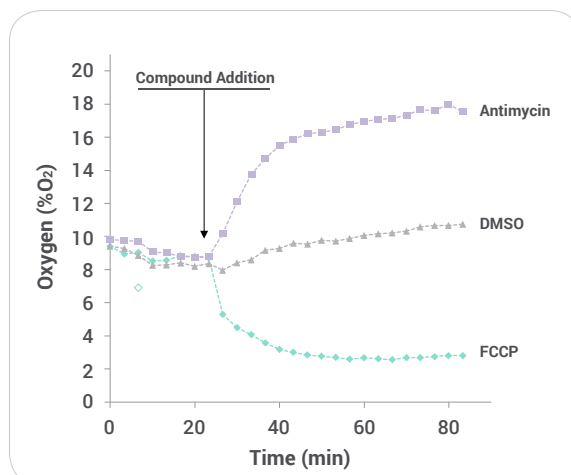


Figure 3: Real-time measurement of the effect of compound treatment on the oxygen levels in HEK293T cells using Luxcel Biosciences’ MitoXpress® Intra. Antimycin treatment inhibits oxygen consumption, while FCCP treatment causes an increase in oxygen consumption resulting in a rapid decrease in the intracellular concentration of oxygen.