

# Using XF technology to measure cell metabolism under hypoxic conditions

## Now you can measure cell metabolism and characterize metabolic phenotypes under hypoxic conditions

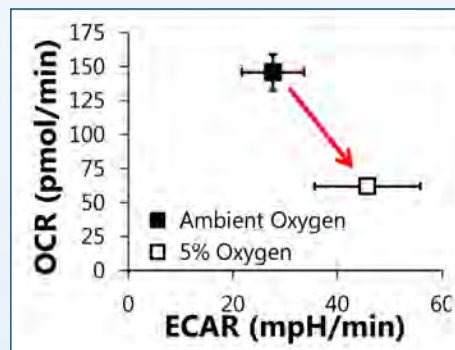
- Model *in vivo* conditions and measure cell metabolism under low oxygen conditions.\*
- Measure metabolic and bioenergetic changes in models of cancer biology, cardiovascular disease, and stroke.
- Measure stem cell energy metabolism and monitor stages of differentiation.



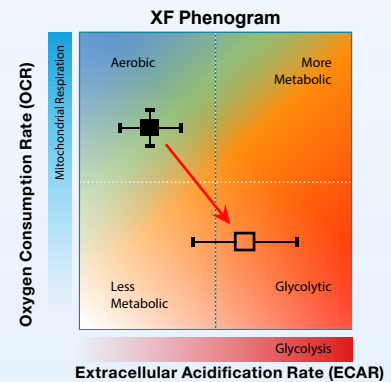
XF96 Analyzer in Coy Hypoxic Chamber.  
(XF Controller operates outside.)

### XF or XF<sup>®</sup> Analyzers reveal fundamental changes in the metabolic phenotype of cancer cells at 5% O<sub>2</sub>

Detect metabolic shifts in real-time with XF label-free, non-invasive technology.



MCF-7 cells (human metastatic breast cancer cell line) exhibit a characteristic Warburg shift following exposure to 5% O<sub>2</sub> as depicted in the XF Phenogram.

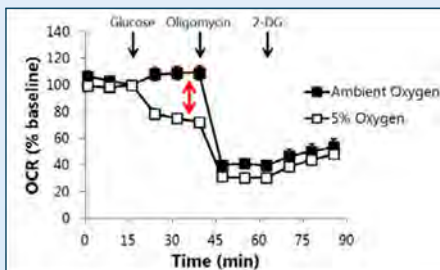


Extracellular Acidification Rate (ECAR)

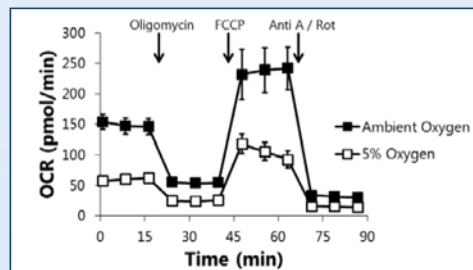
The XF Phenogram shows the shift from an aerobic to glycolytic phenotype.

### Characterize metabolic phenotypes in hypoxia with XF Stress Tests

An XF assay conducted at 5% O<sub>2</sub> using the XF Glycolysis Stress Test reveals the Crabtree effect in tumor cell lines; whereas an XF assay conducted at 5% O<sub>2</sub> using the XF Cell Mito Stress Test reveals decreased mitochondrial function in tumor cell lines.



XF Glycolysis Stress Test (MCF-7 cells)



XF Cell Mito Stress Test (MCF-7 cells)



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\*Not validated for conditions below 3% O<sub>2</sub>