

Cell Characterization with the XFp Analyzer

The XFp Analyzer enables metabolic phenotyping for a variety of cell types. The compact assay format makes setup quick and easy, and the rich data generated gives researchers a complete picture of their biological systems. Using the Cell Characterization protocol for the XFp Analyzer, the following cell types were characterized. These determined conditions also apply to the XF⁹⁶ platform.

Cell Name	Cell Type	Cell Source	Seeding Density (cells/well)	Seeding Time	FCCP (μM)
A549	Human Lung Carcinoma	ATCC® CCL-185™	1.5x10 ⁴	24-28 h	0.5
3T3L1	Mouse Fibroblast	ATCC® CL-173™	5.0-7.0x10 ³	10-14 d	0.5
C2C12	Mouse Myoblast	ATCC® CRL-1772™	1.2x10 ⁴	24-28 h	0.5
HCT116	Human colon carcinoma	ATCC® CCL-247™	1.2x10 ⁴	24-28 h	0.25
HepG2	Human Liver Epithelial Cells	ATCC® HB-8065™	2.0x10 ⁴	24-28 h	0.5
Isolated Mitochondria	Mouse Liver Mitochondria	C57BL/6 mouse	2.0 μg mito protein/well	Centrifuged just before assay	4.0 (0.2% BSA present)
MCF-10A	Human breast epithelium	Horizon HD PAR-003	1.0x10 ⁴	24-28 h	0.5
MCF-7	Human Mammary Gland	ATCC® HTB-22™	2.0x10 ⁴	24-28 h	0.25
Neo Jurkat	Human Lymphocyte	ATCC® CRL-2898	1.0x10 ⁵	Centrifuged same day	0.5
RAW 264.7	Mouse Macrophage	ATCC® TIB-71™	8.0x10 ⁴	3-5 h	0.5
Primary Astrocytes (14 day culture)	Primary Astrocytes	E18 Sprague Dawley Rat Embryos	2.0x10 ⁴	1-2 d	2
BMDM	Bone marrow-derived macrophage	C57BL/6 mouse	8.0x10 ⁴	Differentiate 7 days with GM-CSF	1
Primary Brown Adipocytes	Brown Adipocytes	C57BL/6 mouse neonates	3.0x10 ³	1-2 d	2
BT474	Human Breast Carcinoma	ATCC HTB-20	2.0x10 ⁴	24-28 h	0.5
Primary Hepatocytes	Hepatocytes	CD-1 mouse	1.0x10 ⁴	~18 h	0.5
HuVec	Human Umbilical Vein Endothelium	Lonza C2519A	1.2x10 ⁴	24-28 h	1
Primary Neurons	Neurons	E18 Sprague Dawley Rat Embryos	1.8x10 ⁴	14 d	0.5-1
PC12	Rat pheochromocytoma	ATCC CRL-1721	8.0x10 ⁴	Centrifuged same day on PDL coated wells	1
SK-BR-3	Human Breast Adenocarcinoma	ATCC HTB-30	2.0x10 ⁴	24-28 h	0.25
SKOV3	Human Ovarian Adenocarcinoma	ATCC HTB-77	2.0x10 ⁴	24-28 h	1
Primary Mouse Splenocytes	Splenocytes	C57BL/6 mouse	1.5x10 ⁵	Centrifuged same day on Cell-Tak coated wells	2

Each of the above cell lines/biological material were assayed using 1 μM oligomycin and 0.5 μM each of rotenone/antimycin A.