

Materials List for

High-Resolution Respirometry to Assess Bioenergetics in Cells and Tissues Using Chamber- and Plate-Based Respirometers

Ryan Awadhpersad¹, Christopher B. Jackson¹

¹Department of Biochemistry and Developmental Biology, Faculty of Medicine, University of Helsinki

Corresponding Author

Christopher B. Jackson

christopher.jackson@helsinki.fi

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Materials

Name	Company	Catalog Number	Comments
2 mL Potter-Elvehjem Glass/PTFE Tissue Grinder/Homogenizer	Omni International	07-358029	
95% O ₂ , 5% CO ₂ medical gas mixture			Potter for tissue grinding
ADP	Sigma	A 4386	
Antimycin A	Sigma	A 8674	Chemical
Ascorbate	Merck	PHR1279-1G	Chemical, dissolve in ethanol
BSA (fatty acid free)	Sigma	A 6003	Chemical
CaCO ₃	Sigma	C 4830	Chemical
Cytochrome c	Sigma	C 7752	Chemical
Digitonin	Sigma	D 5628	Chemical
Dithiothreitol	Sigma	D 0632	Chemical, dissolve in DMSO
D-Sucrose	Roth	4621.1	Chemical
Dulbecco's modified Eagle's medium (High glucose)	Fisher Scientific	41965-039	Chemical
Dulbecco's modified Eagle's medium (No Glucose)	Fisher Scientific	A14430-01	
EGTA	Sigma	E 4378	
Etomoxir	Sigma	E1905	Chemical
Falcon 15 ml Conical Centrifuge Tubes	Fisher Scientific	AM12500	Chemical
Falcon 50 ml Conical Centrifuge Tubes	Fisher Scientific	AM12501	
FCCP	Sigma	C 2920	
Glucose	Sigma	G7021	Chemical, dissolve in ethanol
Glutamate	Sigma	G 1626	Chemical
GlutaMax (100x) (200 nM L-alanyl-L-glutamine dipeptide)	Fisher Scientific	35050061	Chemical

HEK293 cells	ATTC	CRL-1573	
Hemocytometer	Fisher Scientific	0267151B	Instrument for cell counting
Hepes	Sigma	H 7523	Chemical
Imidazole	Fluka	56750	Chemical
KCl	Merck	1.04936	Chemical
L-carnitine	Sigma	C0283	Chemical
Malate	Sigma	M 1000	Chemical
MES hydrate	Sigma	M8250	Chemical
MgCl ₂	Sigma	M 9272	Chemical
Na ₂ ATP	Sigma	A 2383	Chemical
Na ₂ Phosphocreatine	Sigma	P 7936	Chemical
Na-pyruvate (100 mM) (100x)	Fisher Scientific	11360070	
NEAA (Non-essential amino acids) 100x	Fisher Scientific	11140035	
Normal FBS (10x)	Fisher Scientific	10500064	
O ₂ k-Core: Oxygraph-2k	Oroboros Instruments	10000-02	High-resolution respirometry instrument
O ₂ k-Titration Set	Oroboros Instruments	20820-03	Hamilton syringes for chemical injections
Oligomycin	Sigma	O 4876	Chemical, dissolve in ethanol
Palmitoylcarnitine	Sigma	P 4509	Chemical
Penicillin-Streptomycin	Fisher Scientific	15140122	
Pierce BCA Protein Assay Kit	Fisher Scientific	23227	
Pyruvate	Sigma	P 2256	Chemical
RIPA-Buffer	Fisher Scientific	89900	Chemical
Rotenone	Sigma	R 8875	Chemical, dissolve in ethanol
Saponin	Sigma	S7900	Chemical
Seahorse XF DMEM assay medium pack, pH 7.4	Agilent, Santa Clara, CA	103680-100	
Seahorse XFe96 Extracellular Flux Analyzer	Agilent, Santa Clara, CA		High-throughput respirometry instrument
Seahorse XFe96 FluxPak	Agilent, Santa Clara, CA		Includes assay plates, cartridges, loading guides for transferring compounds to the assay cartridge, and calibrant solution.
Small scissors	Fisher Scientific	08-951-20	
Sodium azide	Sigma	S2002	Chemical
Succinate	Sigma	S 2378	Chemical
Taurine	Sigma	T 8691	Chemical
TMPD	Sigma	T 3134	Chemical
Trypan Blue solution	Merck	72-57-1	Chemical
Trypsin 0.25% EDTA	Fisher Scientific	25200056	
Two thin-edged forceps	Fisher Scientific	12-000-122	
Uridine stock (500x)	Sigma	U3750	Chemical