

Human Pseudoislet System for Synchronous Assessment of Fluorescent Biosensor Dynamics and Hormone Secretory Profiles

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Materials

Name	Company	Catalog Number	Comments
Ad-CMV-cADDIS	Welgen	Not applicable	
0.01" FEP tubing	IDEX	1527L	
1 M HEPES	Gibco	15630-080	Enriched-CMRL Media Component
1.5 mL and conical tubes	Any	Any	
10 µm PTFE filter	Cole-Parmer	SK-21940-41	Change every 8-10 runs
100 mM Sodium Pyruvate	Thermo Scientific	11360070	Enriched-CMRL Media Component
190 proof Ethanol	Decon labs	2816	Acid Ethanol Component
200 mM GlutaMAX-I Supplement	Gibco	35050061	Enriched-CMRL Media Component
Ascorbate	Sigma	A5960	DMEM Perfusion Buffer Component
Bovine Serum Albumin	Sigma	A7888	DMEM Perfusion Buffer Component
Bubble trap	Omnifit	006BT	
CellCarrier ULA 96-well Microplates	Perkin Elmer	6055330	
cellSens analysis software	Olympus	v3.1	Software used for data analysis
CMRL 1066	MediaTech	15-110-CV	Enriched-CMRL Media Component
Conical adapter (IDEX, P-794)	IDEX	P-794	
D-(+)-Glucose	Sigma	G7528	Glucose Buffer Component
DMEM	Sigma	D5030	DMEM Perfusion Buffer Component
Environmental chamber	okolab	IX83	
Epinephrine (Epi)	Sigma	E4250	Stimulation Buffer Component
Fetal Bovine Serum (FBS), Heat Inactivated	Sigma	12306C	Enriched-CMRL Media Component

Glucagon ELISA	Mercodia	10-1281-01	
Glucagon Kit HTRF	Cisbio	62CGLPEH	
HCl (12N)	Any	Any	Acid Ethanol Component
HEPES	Sigma	H7523	DMEM Perifusion Buffer Component
iCell Endothelial Cells Medium Supplement	Cell Dynamics	M1019	iEC Media Component
Idex Derlin nut & ferrule 1/4-24	Cole-Parmer	EW-00414-LW	
Insulin ELISA	Mercodia	10-1113-01	
Isobutylmethylxanthine (IBMX)	Sigma	I5879	Stimulation Buffer Component
Laser scanning confocal microscope	Olympus	FV3000	
L-Glutamine	Sigma	G8540	DMEM Perifusion Buffer Component
Microchip (University of Miami, FP-3W)	University of Miami	FP-3W	
Microchip holder	Micronit Microfluidics	FC_PRO_CH4525	
Model 2110 Fraction Collector	Biorad	7318122	
P10, P200, and P1000 pipets and tips	Any	Any	
Penicillin/Streptomycin	Gibco	15140-122	Enriched-CMRL Media Component
Peristaltic pump	Instech	P720	
Phosphate Buffered Saline	Gibco	14190-144	Wash Islets
Sarstedt dishes	Sarstedt	depends on dish diameter	
Sodium Bicarbonate	Sigma	S6014	DMEM Perifusion Buffer Component
Sodium Pyruvate	Sigma	P2256	DMEM Perifusion Buffer Component
Stereoscope	Olympus	SZX12	
Steriflip Filter (0.22 µm)	Millipore	SCGP00525	Filter all buffers twice
VasculLife VEGF Medium Complete Kit	LifeLine Cell Technology	LL-0003	iEC Media Component