

Electrochemical Quantification of H₂O₂ Released by Airways Cells Growing in Different Culture Media

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BEBM™ Basal Medium 500 ml

- Orange Cap Vial with BPE, 2.00 mL
- Lilac Cap Vial with Insulin, 0.50 mL
- Natural Cap Vial with Hydrocortisone, 0.50 mL
- Red Cap Vial with GA-1000, 0.50 mL
- Amber Vial with Retinoic Acid, 0.50 mL
- Natural Cap Vial with Transferrin, 0.50 mL
- Amber Vial with Triiodothyronine, 0.50 mL
- Amber Vial with Epinephrine, 0.50 mL
- Green Cap Vial with hEGF, 0.50 mL



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Composition of DMEM High Glucose w Sodium Pyruvate w/o L-Glutamine

Code: ECB7501L

Amino acids :

Glycine	30 mg/l
L-Arginine+HCl	84 mg/l
L-Cystine+2HCl	62.6 mg/l
L-Histidine+HCl+H ₂ O	42 mg/l
L-Isoleucine	104.8 mg/l
L-Leucine	104.8 mg/l
L-Lysine+HCl	146.20 mg/l
L-Methionine	30 mg/l
L-Phenylalanine	66 mg/l
L-Serine	42 mg/l
L-Threonine	95.20 mg/l
L-Tryptophan	16 mg/l
L-Tyrosine	72 mg/l
L-Valine	93.6 mg/l

Inorganic salt :

Calcium chloride	200 mg/l
Ferric nitrate Nonahydrate	0.1 mg/l
Magnesium sulfate+7H ₂ O	200 mg/l
Potassium chloride	400 mg/l
Sodium Phosphate Monobasic+H ₂ O	125 mg/l
Sodium bicarbonate	3700 mg/l
Sodium chloride	6400 mg/l

Vitamins :

Choline chloride	4 mg/l
D-Ca pantothenate	4 mg/l
Folic acid	4 mg/l
I-inositol	7 mg/l
Nicotinamide	4 mg/l
Pyridoxal + HCl	4 mg/l
Riboflavin	0.4 mg/l
Thiamine+HCl	4 mg/l

Other components :

D-Glucose	4500 mg/l
Phenol red	15.34 mg/l
Pyruvic Acid.Na	110 mg/l

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Composition of Ham's F12 w/o L-Glutamine

Code: ECB7502L

Amino acids :	
Glycine	7.51 mg/l
L-Alanine	9 mg/l
L-Arginine+HCl	211 mg/l
L-Asparagine+H ₂ O	15.01 mg/l
L-Aspartic acid	13.3 mg/l
L-Cysteine+HCl+H ₂ O	35 mg/l
L-Glutamic acid	14.7 mg/l
L-Histidine+HCl+H ₂ O	20.96 mg/l
L-Isoleucine	3.94 mg/l
L-Leucine	13.1 mg/l
L-Lysine+HCl	36.5 mg/l
L-Methionine	4.48 mg/l
L-Phenylalanine	4.96 mg/l
L-Proline	34.5 mg/l
L-Serine	10.5 mg/l
L-Threonine	11.9 mg/l
L-Tryptophan	2.04 mg/l
L-Tyrosine + 2Na + 2H ₂ O	7.78 mg/l
L-Valine	11.7 mg/l
Inorganic salt :	
Calcium chloride Dihydrate	44.1 mg/l
Cupric sulfate pentahydrate	0.0025 mg/l
Ferrous sulfate Heptahydrate	0.834 mg/l
Magnesium chloride Hexahydrate	123 mg/l
Potassium chloride	224 mg/l
Sodium bicarbonate	1176 mg/l

Sodium chloride	7599 mg/l
Sodium phosphate dibasic anhydrous	142.04 mg/l
Zinc sulfate Heptahydrate	0.863 mg/l
Vitamins :	
Choline chloride	13.96 mg/l
D-Biotin	0.0073 mg/l
D-Ca pantothenate	0.48 mg/l
Folic acid	1.32 mg/l
Myo-inositol	18 mg/l
Nicotinamide	0.037 mg/l
Pyridoxine+HCl	0.062 mg/l
Riboflavin	0.038 mg/l
Thiamine+HCl	0.34 mg/l
Vitamine B12	1.36 mg/l
Other components :	
D-Glucose	1802 mg/l
Hypoxanthine	4.08 mg/l
Linoleic acid	0.084 mg/l
Phenol red	1.3 mg/l
Putrescine+2HCL	0.161 mg/l
Sodium pyruvate	110 mg/l
Thioctic acid	0.21 mg/l
Thymidine	0.73 mg/l

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Composition of MEM w/ Earle's Salts w/o L-Glutamine

Code: ECB2071L

Amino acids :	
L-Arginine+HCl	126 mg/l
L-Cystine+2HCl	31.3 mg/l
L-Histidine+HCl+H ₂ O	42 mg/l
L-Isoleucine	52 mg/l
L-Leucine	52 mg/l
L-Lysine+HCl	72.5 mg/l
L-Methionine	15 mg/l
L-Phenylalanine	32 mg/l
L-Threonine	48 mg/l
L-Tryptophan	10 mg/l
L-Tyrosine 2Na ₂ +H ₂ O	51.9 mg/l
L-Valine	46 mg/l
Inorganic salt :	
Calcium chloride Dihydrate	265 mg/l
Magnesium sulfate Anhydrous	97.67 mg/l
Potassium chloride	400 mg/l
Sodium Phosphate Monobasic Anhydrous	122 mg/l
Sodium bicarbonate	2200 mg/l
Sodium chloride	6800 mg/l

Vitamins :	
Choline chloride	1 mg/l
D-Ca pantothenate	1 mg/l
Folic acid	1 mg/l
Myo-inositol	2 mg/l
Nicotinamide	1 mg/l
Pyridoxine + HCl	1 mg/l
Riboflavin	0.1 mg/l
Thiamine+HCl	1 mg/l
Other components :	
D-Glucose	1000 mg/l
Phenol red	11 mg/l

ECB2071_Ed2_0218_691



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RPMI 1640

Code: ECB9006

Amino acids :

Glycine	10 mg/l
L-Arginine	200 mg/l
L-Asparagine + H ₂ O	50 mg/l
L-Aspartic acid	20 mg/l
L-Cystine Dihydrochloride	65,2 mg/l
L-Glutamic acid	20 mg/l
L-Histidine	15 mg/l
L-Hydroxy-L-proline	20 mg/l
L-Isoleucine	50 mg/l
L-Leucine	50 mg/l
L-Lysine+HCl	40 mg/l
L-Methionine	15 mg/l
L-Phenylalanine	15 mg/l
L-Proline	20 mg/l
L-Serine	30 mg/l
L-Threonine	20 mg/l
L-Tryptophan	5 mg/l
L-Tyrosine disodium salt dihydrate	28,8 mg/l
L-Valine	20 mg/l

Inorganic salt :

Calcium Nitrate Tetrahydrate	100 mg/l
Magnesium sulfate anhydrous	48,8 mg/l
Potassium chloride	400 mg/l
Sodium bicarbonate	2000 mg/l
Sodium chloride	6000 mg/l
Sodium phosphate dibasic anhydrous	2000 mg/l

Vitamins :

Choline chloride	3 mg/l
p-Amino Benzoic Acid	1 mg/l
D-Biotin	0.2 mg/l
D-Ca pantothenate	0.25 mg/l
Folic acid	1 mg/l
Myo-inositol	35 mg/l
Nicotinamide	1 mg/l
D-Pantothenic acid	0,25 mg/l
Pyridoxine+HCl	1 mg/l
Riboflavin	0.2 mg/l
Thiamine+HCl	1 mg/l
Vitamine B12	0.005 mg/l

Other components :

D-Glucose	2000 mg/l
L-Glutathione reduced	1 mg/l
Phenol red	5,3 mg/l

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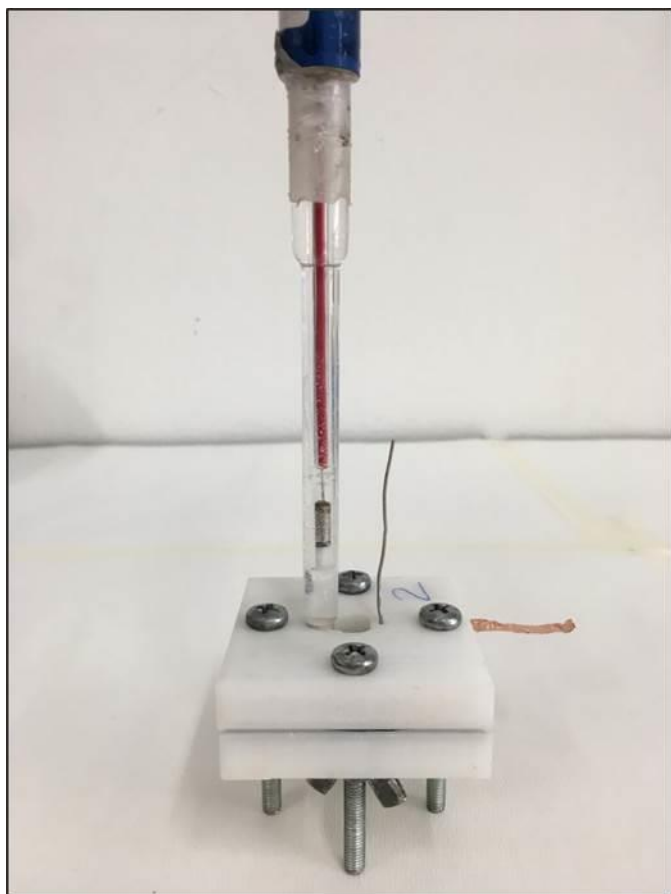


Figure S1. Photo of the 3D printed cell

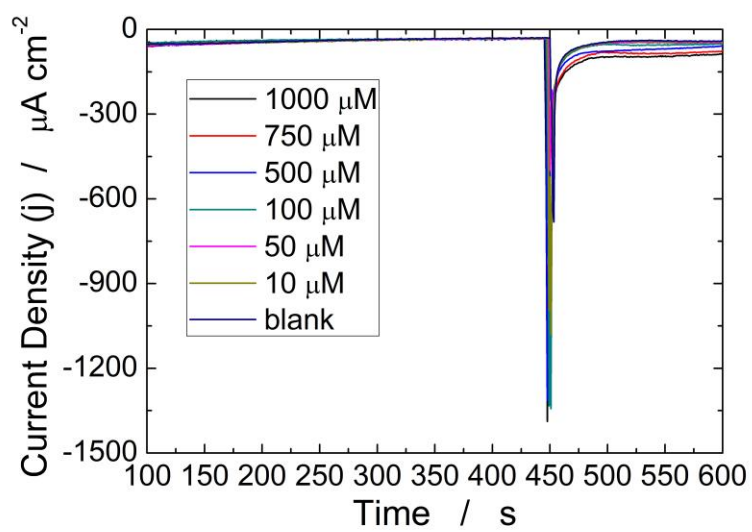


Figure S2. Effect of increasing H_2O_2 concentration on CH experiment carried out at -800 mV vs SCE using diluted MEM medium