【DRAWINGS】

【FIG. 1】

Basal Media Composition (Research Use)

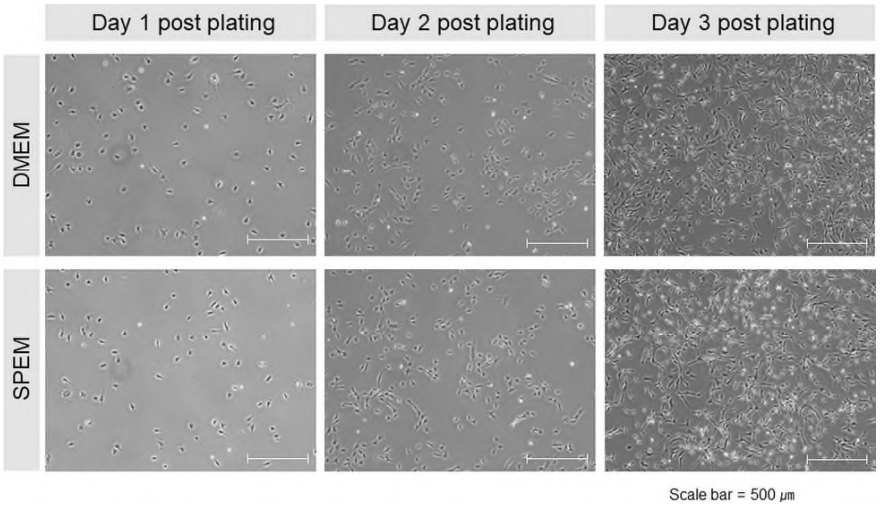
Type	CAS No.	Component Name (English)
Amino Acids	56-89-3	Glycine
	1119-34-2	L-Arginine Hydrochloride
	30925-07-6	L-Cystine Dihydrochloride
	56-85-9	L-Glutamine
	5934-29-2	L-Histidine Hydrochloride
	73-32-5	L-Isoleucine
	61-90-5	L-Leucine
	657-27-2	L-Lysine Hydrochloride
	63-68-3	L-Methionine
	63-91-2	L-Phenylalanine
	56-45-1	L-Serine
	72-19-5	L-Threonine
	72-22-3	L-Tryptophan
	122666-87-9	L-Tyrosine Disodium Salt Dihydrate
	72-18-4	L-Valine
Vitamins	67-48-1	Choline Chloride
	137-08-6	Calcium Pantothenate
	59-30-3	Folic Acid
	67-99-0	Inositol
	98-92-0	Nicotinamide
	58-56-0	Pyridoxine Hydrochloride
	83-88-5	Riboflavin
	67-03-8	Thiamine Hydrochloride
Inorganic Salts	10043-52-4	Calcium Chloride
	7782-61-8	Iron(III) Nitrate Nonahydrate
	7487-88-9	Magnesium Sulfate
	7447-40-7	Potassium Chloride
	144-55-8	Sodium Bicarbonate
	7647-14-5	Purified Salt
	7558-80-7	Sodium Dihydrogen Phosphate
Other	50-99-7	Anhydrous Crystalline Glucose
	7732-18-5	Purified Water

Conversion to Edible Medium

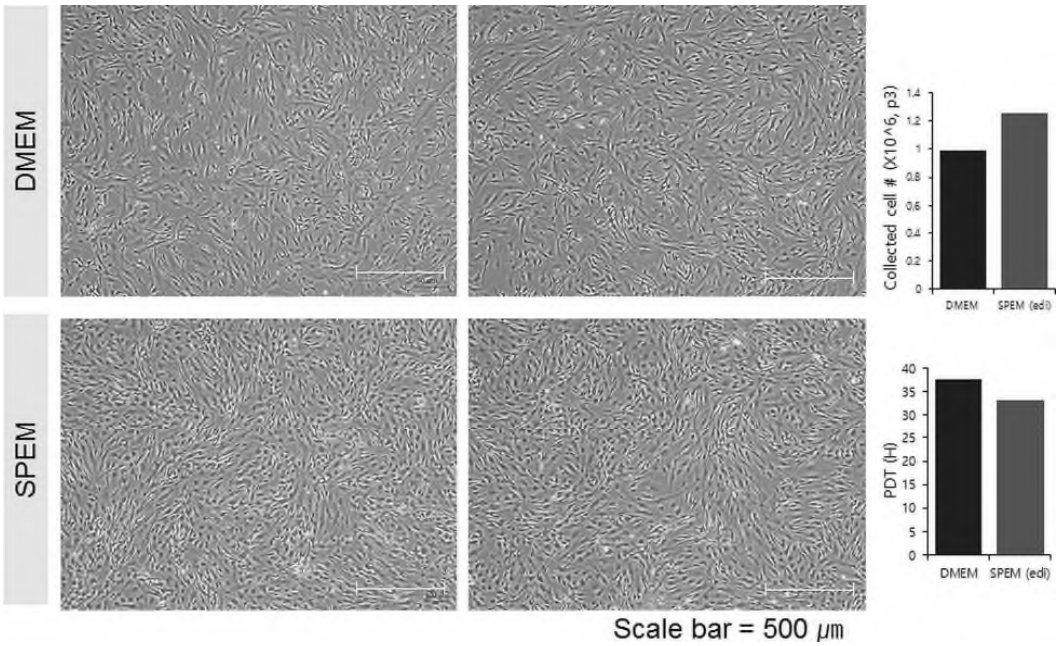
Edible (SPEM)

Type	CAS No.	Component Name (English)
Amino Acids	56-89-3	Glycine
	74-79-3	L-Arginine
	56-89-3	L-Cystine
	56-85-9	L-Glutamine
	71-00-1	L-Histidine
	73-32-5	L-Isoleucine
	61-90-5	L-Leucine
	657-27-2	L-Lysine Hydrochloride
	63-68-3	L-Methionine
	63-91-2	L-Phenylalanine
	56-45-1	L-Serine
	72-19-5	L-Threonine
	72-22-3	L-Tryptophan
	60-18-4	L-Tyrosine
	72-18-4	L-Valine
Vitamins	67-48-1	Choline Chloride
	137-08-6	Calcium Pantothenate
	59-30-3	Folic Acid
	67-99-0	Inositol
	98-92-0	Nicotinamide
	58-56-0	Pyridoxine Hydrochloride
	83-88-5	Riboflavin
	67-03-8	Thiamine Hydrochloride
Inorganic Salts	10043-52-4	Calcium Chloride
	7782-63-0	Ferrous Sulfate
	7487-88-9	Magnesium Sulfate
	7447-40-7	Potassium Chloride
	144-55-8	Sodium Bicarbonate
	7647-14-5	Purified Salt
	7558-80-7	Sodium Dihydrogen Phosphate
Other	50-99-7	Anhydrous Crystalline Glucose
	7732-18-5	Purified Water

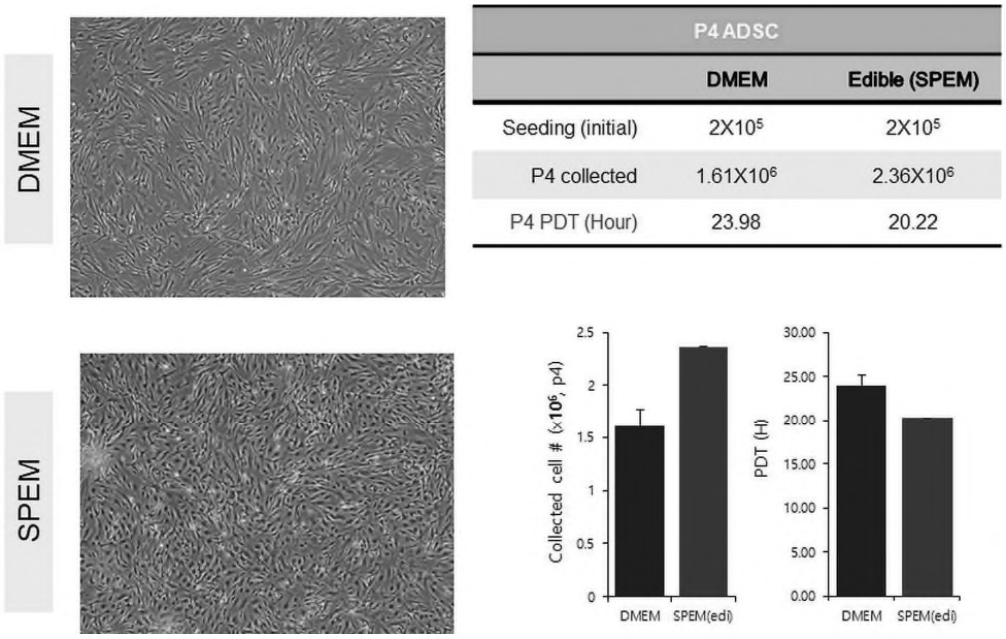
【FIG. 2】



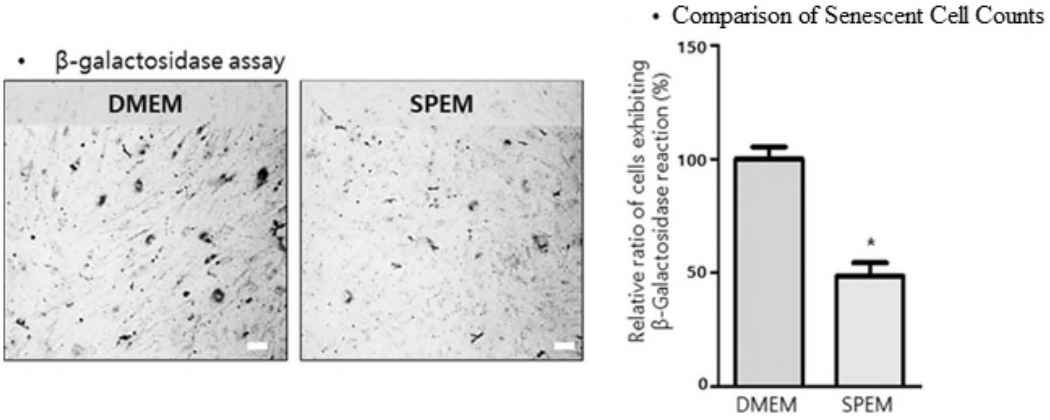
【FIG. 3】


DMEM
SPEM
Collected cell # (X10^6, p3)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
DMEM
SPEM (edi)
PDT (H)
40
35
30
25
20
15
10
5
0
DMEM
SPEM (edi)
Scale bar = 500 μm

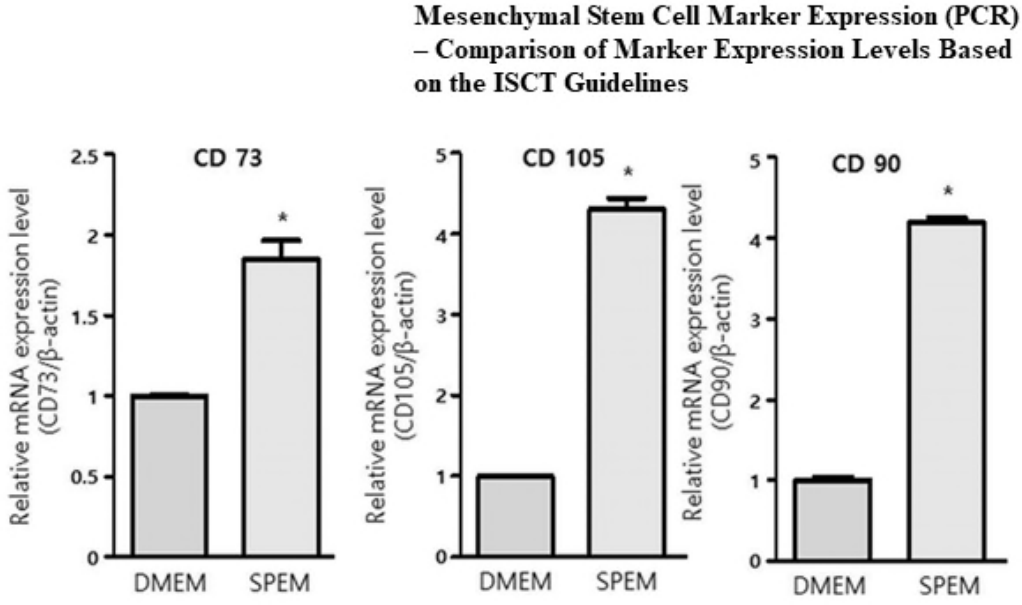
【FIG. 4】


DMEM
SPEM
P4 ADSC
DMEM
Edible (SPEM)
Seeding (initial) 2X10^5 2X10^5
P4 collected 1.61X10^6 2.36X10^6
P4 PDT (Hour) 23.98 20.22
Collected cell # (x10^6, p4)
2.5
2
1.5
1
0.5
0
DMEM
SPEM(edi)
PDT (H)
30.00
25.00
20.00
15.00
10.00
5.00
0.00
DMEM
SPEM(edi)

【FIG. 5】


• β-galactosidase assay
DMEM
SPEM
• Comparison of Senescent Cell Counts
Relative ratio of cells exhibiting β-Galactosidase reaction (%)
150
100
50
0
*
DMEM
SPEM

【FIG. 6】


Mesenchymal Stem Cell Marker Expression (PCR) – Comparison of Marker Expression Levels Based on the ISCT Guidelines
CD 73
Relative mRNA expression level (CD73/β-actin)
2.5
2
1.5
1
0.5
0
*
DMEM
SPEM
CD 105
Relative mRNA expression level (CD105/β-actin)
5
4
3
2
1
0
*
DMEM
SPEM
CD 90
Relative mRNA expression level (CD90/β-actin)
5
4
3
2
1
0
*
DMEM
SPEM