

## DMEM/F12 Medium Ingredient Formula\_Table 1

Ingredient(mg/L) / Cat. No.	PM150312	PM150312A	PM150310	PM150310A	PM150311	PM150313	PM150316
<b>Inorganic Salt</b>							
CaCl <sub>2</sub> (Anhydrous)	116.6	116.6	116.6	116.6	116.6	116.6	116.6
CuSO <sub>4</sub> •5H <sub>2</sub> O	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013
Fe(NO <sub>3</sub> ) <sub>3</sub> •9H <sub>2</sub> O	0.05	0.05	0.05	0.05	0.05	0.05	0.05
FeSO <sub>4</sub> •7H <sub>2</sub> O	0.417	0.417	0.417	0.417	0.417	0.417	0.417
MgCl <sub>2</sub> (Anhydrous)	28.64	28.64	28.64	28.64	28.64	28.64	28.64
MgSO <sub>4</sub> (Anhydrous)	48.84	48.84	48.84	48.84	48.84	48.84	48.84
KCl	311.8	311.8	311.8	311.8	311.8	311.8	311.8
NaHCO <sub>3</sub>	2438	2438	1200	1200	1200	2438	2438
NaCl	6995.5	6995.5	6995.5	6995.5	6995.5	6995.5	6995.5
Na <sub>2</sub> HPO <sub>4</sub> (Anhydrous)	71.02	71.02	71.02	71.02	71.02	71.02	71.02
NaH <sub>2</sub> PO <sub>4</sub> (Anhydrous)	54.3	54.3	54.3	54.3	54.3	54.3	54.3
ZnSO <sub>4</sub> •7H <sub>2</sub> O	0.432	0.432	0.432	0.432	0.432	0.432	0.432
<b>Amino Acid</b>							
Glycine	18.75	18.75	18.75	18.75	18.75	18.75	18.75
L-Alanine	4.45	4.45	4.45	4.45	4.45	4.45	4.45
L-Arginine Hydrochloride	147.5	147.5	147.5	147.5	147.5	147.5	147.5
L-Asparagine Monohydrate	7.5	7.5	7.5	7.5	7.5	7.5	7.5
L-Aspartic Acid	6.65	6.65	6.65	6.65	6.65	6.65	6.65
L-Cysteine Hydrochloride	17.56	17.56	17.56	17.56	17.56	17.56	17.56
L-Cystine Dihydrochloride	31.29	31.29	31.29	31.29	31.29	31.29	31.29
L-Glutamic Acid	7.35	7.35	7.35	7.35	7.35	7.35	7.35
L-Glutamine	365	365	365	365	–	–	365
L-Histidine Hydrochloride	31.48	31.48	31.48	31.48	31.48	31.48	31.48
L-Isoleucine	54.47	54.47	54.47	54.47	54.47	54.47	54.47
L-Leucine	59.05	59.05	59.05	59.05	59.05	59.05	59.05
L-Lysine Hydrochloride	91.25	91.25	91.25	91.25	91.25	91.25	91.25
L-Methionine	17.24	17.24	17.24	17.24	17.24	17.24	17.24
L-Phenylalanine	35.48	35.48	35.48	35.48	35.48	35.48	35.48
L-Proline	17.25	17.25	17.25	17.25	17.25	17.25	17.25
L-Serine	26.25	26.25	26.25	26.25	26.25	26.25	26.25
L-Threonine	53.45	53.45	53.45	53.45	53.45	53.45	53.45
L-Tryptophan	9.02	9.02	9.02	9.02	9.02	9.02	9.02
L-Tyrosine Disodium Salt	55.79	55.79	55.79	55.79	55.79	55.79	55.79
L-Valine	52.85	52.85	52.85	52.85	52.85	52.85	52.85
<b>Vitamin</b>							
Biotin	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035
Choline Chloride	8.98	8.98	8.98	8.98	8.98	8.98	8.98
D-Calcium Pantothenate	2.24	2.24	2.24	2.24	2.24	2.24	2.24
Folic Acid	2.65	2.65	2.65	2.65	2.65	2.65	2.65
Niacinamide	2.02	2.02	2.02	2.02	2.02	2.02	2.02
Pyridoxine Hydrochloride	2	2	2	2	2	2	2
Riboflavin	0.219	0.219	0.219	0.219	0.219	0.219	0.219
Thiamine Hydrochlorid	2.17	2.17	2.17	2.17	2.17	2.17	2.17
Vitamin B12	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Meso-inositol	12.6	12.6	12.6	12.6	12.6	12.6	12.6
<b>Others</b>							
D-Glucose	3151	3151	3151	3151	3151	3151	3151
HEPES	–	–	3574.5	3574.5	3574.5	–	–
Hypoxanthine Sodium Salt	2.39	2.39	2.39	2.39	2.39	2.39	2.39
Linoleic Acid	0.042	0.042	0.042	0.042	0.042	0.042	0.042
Lipoic Acid	0.105	0.105	0.105	0.105	0.105	0.105	0.105
Phenol Red	8.1	8.1	8.1	8.1	8.1	8.1	–
Putrescine Dihydrochloride	0.081	0.081	0.081	0.081	0.081	0.081	0.081
Sodium Pyruvate	55	55	55	55	55	55	55
Thymidine	0.365	0.365	0.365	0.365	0.365	0.365	0.365
Penicillin G Sodium Salt	–	100kU	–	100kU	–	–	–
Streptomycin Sulfate	–	100	–	100	–	–	–

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## DMEM/F12 Ingredient Formula\_Table 2

Ingredient(mg/L) / Cat.	PM150314	PM150315	PM150317	PM150318	PM150319	PM150320	PM150321
<b>Inorganic Salt</b>							
CaCl <sub>2</sub> (Anhydrous)	116.6	116.6	116.6	116.6	116.6	116.6	116.6
CuSO <sub>4</sub> •5H <sub>2</sub> O	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013
Fe(NO <sub>3</sub> ) <sub>3</sub> •9H <sub>2</sub> O	0.05	0.05	0.05	0.05	0.05	0.05	0.05
FeSO <sub>4</sub> •7H <sub>2</sub> O	0.417	0.417	0.417	0.417	0.417	0.417	0.417
MgCl <sub>2</sub> (Anhydrous)	28.64	28.64	28.64	28.64	28.64	28.64	28.64
MgSO <sub>4</sub> (Anhydrous)	48.84	48.84	48.84	48.84	48.84	48.84	48.84
KCl	311.8	311.8	311.8	311.8	311.8	311.8	311.8
NaHCO <sub>3</sub>	2438	1200	2438	1200	1200	2438	1200
NaCl	6995.5	6995.5	6995.5	6995.5	6995.5	6995.5	6995.5
Na <sub>2</sub> HPO <sub>4</sub> (Anhydrous)	71.02	71.02	71.02	71.02	71.02	71.02	71.02
NaH <sub>2</sub> PO <sub>4</sub> (Anhydrous)	54.3	54.3	54.3	54.3	54.3	54.3	54.3
ZnSO <sub>4</sub> •7H <sub>2</sub> O	0.432	0.432	0.432	0.432	0.432	0.432	0.432
<b>Amino Acid</b>							
L-Alanyl-L-Glutamine	543	543	–	–	–	543	543
Glycine	18.75	18.75	18.75	18.75	18.75	18.75	18.75
L-Alanine	4.45	4.45	4.45	4.45	4.45	4.45	4.45
L-Arginine Hydrochloride	147.5	147.5	147.5	147.5	147.5	147.5	147.5
L-Asparagine Monohydrate	7.5	7.5	7.5	7.5	7.5	7.5	7.5
L-Aspartic Acid	6.65	6.65	6.65	6.65	6.65	6.65	6.65
L-Cysteine Hydrochloride	17.56	17.56	17.56	17.56	17.56	17.56	17.56
L-Cystine Dihydrochloride	31.29	31.29	31.29	31.29	31.29	31.29	31.29
L-Glutamic Acid	7.35	7.35	7.35	7.35	7.35	7.35	7.35
L-Glutamine	–	–	–	365	–	–	–
L-Histidine Hydrochloride	31.48	31.48	31.48	31.48	31.48	31.48	31.48
L-Isoleucine	54.47	54.47	54.47	54.47	54.47	54.47	54.47
L-Leucine	59.05	59.05	59.05	59.05	59.05	59.05	59.05
L-Lysine Hydrochloride	91.25	91.25	91.25	91.25	91.25	91.25	91.25
L-Methionine	17.24	17.24	17.24	17.24	17.24	17.24	17.24
L-Phenylalanine	35.48	35.48	35.48	35.48	35.48	35.48	35.48
L-Proline	17.25	17.25	17.25	17.25	17.25	17.25	17.25
L-Serine	26.25	26.25	26.25	26.25	26.25	26.25	26.25
L-Threonine	53.45	53.45	53.45	53.45	53.45	53.45	53.45
L-Tryptophan	9.02	9.02	9.02	9.02	9.02	9.02	9.02
L-Tyrosine Disodium Salt	55.79	55.79	55.79	55.79	55.79	55.79	55.79
L-Valine	52.85	52.85	52.85	52.85	52.85	52.85	52.85
<b>Vitamin</b>							
Biotin	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035
Choline Chloride	8.98	8.98	8.98	8.98	8.98	8.98	8.98
D-Calcium Pantothenate	2.24	2.24	2.24	2.24	2.24	2.24	2.24
Folic Acid	2.65	2.65	2.65	2.65	2.65	2.65	2.65
Niacinamide	2.02	2.02	2.02	2.02	2.02	2.02	2.02
Pyridoxine Hydrochloride	2	2	2	2	2	2	2
Riboflavin	0.219	0.219	0.219	0.219	0.219	0.219	0.219
Thiamine Hydrochlorid	2.17	2.17	2.17	2.17	2.17	2.17	2.17
Vitamin B12	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Meso-inositol	12.6	12.6	12.6	12.6	12.6	12.6	12.6
<b>Others</b>							
D-Glucose	3151	3151	3151	3151	3151	3151	3151
HEPES	–	3574.5	3574.5	3574.5	3574.5	–	3574.5
Hypoxanthine Sodium Salt	2.39	2.39	2.39	2.39	2.39	2.39	2.39
Linoleic Acid	0.042	0.042	0.042	0.042	0.042	0.042	0.042
Lipoic Acid	0.105	0.105	0.105	0.105	0.105	0.105	0.105
Phenol Red	8.1	8.1	–	–	–	–	–
Putrescine Dihydrochloride	0.081	0.081	0.081	0.081	0.081	0.081	0.081
Sodium Pyruvate	55	55	55	55	55	55	55
Thymidine	0.365	0.365	0.365	0.365	0.365	0.365	0.365

### DMEM/F12 Ingredient Formula\_Table 3

Ingredient(mg/L) / Cat.	PM150322	PM150323	PM150324	PM150325	PM150326	PM150327	PM150328
<b>Inorganic Salt</b>							
CaCl2(Anhydrous)	116.6	116.6	116.6	116.6	116.6	116.6	116.6
CuSO4•5H2O	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013
Fe(NO3)3•9H2O	0.05	0.05	0.05	0.05	0.05	0.05	0.05
FeSO4•7H2O	0.417	0.417	0.417	0.417	0.417	0.417	0.417
MgCl2(Anhydrous)	28.64	28.64	28.64	28.64	28.64	28.64	28.64
MgSO4(Anhydrous)	48.84	48.84	48.84	48.84	48.84	48.84	48.84
KCl	311.8	311.8	311.8	311.8	311.8	311.8	311.8
NaHCO3	2438	1200	2438	1200	2438	1200	2438
NaCl	6995.5	6995.5	6995.5	6995.5	6995.5	6995.5	6995.5
Na2HPO4(Anhydrous)	71.02	71.02	71.02	71.02	71.02	71.02	71.02
NaH2PO4(Anhydrous)	54.3	54.3	54.3	54.3	54.3	54.3	54.3
ZnSO4•7H2O	0.432	0.432	0.432	0.432	0.432	0.432	0.432
<b>Amino Acid</b>							
L-Alanyl-L-Glutamine	–	–	–	–	–	–	–
Glycine	18.75	18.75	18.75	18.75	18.75	18.75	18.75
L-Alanine	4.45	4.45	4.45	4.45	4.45	4.45	4.45
L-Arginine Hydrochloride	147.5	147.5	147.5	147.5	147.5	147.5	147.5
L-Asparagine Monohydrate	7.5	7.5	7.5	7.5	7.5	7.5	7.5
L-Aspartic Acid	6.65	6.65	6.65	6.65	6.65	6.65	6.65
L-Cysteine Hydrochloride	17.56	17.56	17.56	17.56	17.56	17.56	17.56
L-Cystine Dihydrochloride	31.29	31.29	31.29	31.29	31.29	31.29	31.29
L-Glutamic Acid	7.35	7.35	7.35	7.35	7.35	7.35	7.35
L-Glutamine	365	365	365	365	–	–	–
L-Histidine Hydrochloride	31.48	31.48	31.48	31.48	31.48	31.48	31.48
L-Isoleucine	54.47	54.47	54.47	54.47	54.47	54.47	54.47
L-Leucine	59.05	59.05	59.05	59.05	59.05	59.05	59.05
L-Lysine Hydrochloride	91.25	91.25	91.25	91.25	91.25	91.25	91.25
L-Methionine	17.24	17.24	17.24	17.24	17.24	17.24	17.24
L-Phenylalanine	35.48	35.48	35.48	35.48	35.48	35.48	35.48
L-Proline	17.25	17.25	17.25	17.25	17.25	17.25	17.25
L-Serine	26.25	26.25	26.25	26.25	26.25	26.25	26.25
L-Threonine	53.45	53.45	53.45	53.45	53.45	53.45	53.45
L-Tryptophan	9.02	9.02	9.02	9.02	9.02	9.02	9.02
L-Tyrosine Disodium Salt	55.79	55.79	55.79	55.79	55.79	55.79	55.79
L-Valine	52.85	52.85	52.85	52.85	52.85	52.85	52.85
<b>Vitamin</b>							
Biotin	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035
Choline Chloride	8.98	8.98	8.98	8.98	8.98	8.98	8.98
D-Calcium Pantothenate	2.24	2.24	2.24	2.24	2.24	2.24	2.24
Folic Acid	2.65	2.65	2.65	2.65	2.65	2.65	2.65
Niacinamide	2.02	2.02	2.02	2.02	2.02	2.02	2.02
Pyridoxine Hydrochloride	2	2	2	2	2	2	2
Riboflavin	0.219	0.219	0.219	0.219	0.219	0.219	0.219
Thiamine Hydrochlorid	2.17	2.17	2.17	2.17	2.17	2.17	2.17
Vitamin B12	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Meso-inositol	12.6	12.6	12.6	12.6	12.6	12.6	12.6
<b>Others</b>							
D-Glucose	–	–	–	–	–	–	–
HEPES	–	3574.5	–	3574.5	–	3574.5	–
Hypoxanthine Sodium Salt	2.39	2.39	2.39	2.39	2.39	2.39	2.39
Linoleic Acid	0.042	0.042	0.042	0.042	0.042	0.042	0.042
Lipoic Acid	0.105	0.105	0.105	0.105	0.105	0.105	0.105
Phenol Red	8.1	8.1	–	–	8.1	8.1	–
Putrescine Dihydrochloride	0.081	0.081	0.081	0.081	0.081	0.081	0.081
Sodium Pyruvate	55	55	55	55	55	55	55
Thymidine	0.365	0.365	0.365	0.365	0.365	0.365	0.365

## DMEM/F12 Ingredient Formula\_Table 4

Ingredient(mg/L) / Cat.	PM150329	PM150330	PM150331	PM1503332	PM150333
<b>Inorganic Salt</b>					
CaCl <sub>2</sub> (Anhydrous)	116.6	116.6	116.6	116.6	116.6
CuSO <sub>4</sub> •5H <sub>2</sub> O	0.0013	0.0013	0.0013	0.0013	0.0013
Fe(NO <sub>3</sub> ) <sub>3</sub> •9H <sub>2</sub> O	0.05	0.05	0.05	0.05	0.05
FeSO <sub>4</sub> •7H <sub>2</sub> O	0.417	0.417	0.417	0.417	0.417
MgCl <sub>2</sub> (Anhydrous)	28.64	28.64	28.64	28.64	28.64
MgSO <sub>4</sub> (Anhydrous)	48.84	48.84	48.84	48.84	48.84
KCl	311.8	311.8	311.8	311.8	311.8
NaHCO <sub>3</sub>	1200	2438	1200	2438	1200
NaCl	6995.5	6995.5	6995.5	6995.5	6995.5
Na <sub>2</sub> HPO <sub>4</sub> (Anhydrous)	71.02	71.02	71.02	71.02	71.02
NaH <sub>2</sub> PO <sub>4</sub> (Anhydrous)	54.3	54.3	54.3	54.3	54.3
ZnSO <sub>4</sub> •7H <sub>2</sub> O	0.432	0.432	0.432	0.432	0.432
<b>Amino Acid</b>					
L-Alanyl-L-Glutamine	–	543	543	543	543
Glycine	18.75	18.75	18.75	18.75	18.75
L-Alanine	4.45	4.45	4.45	4.45	4.45
L-Arginine Hydrochloride	147.5	147.5	147.5	147.5	147.5
L-Asparagine Monohydrate	7.5	7.5	7.5	7.5	7.5
L-Aspartic Acid	6.65	6.65	6.65	6.65	6.65
L-Cysteine Hydrochloride Monohydrate	17.56	17.56	17.56	17.56	17.56
L-Cystine Dihydrochloride	31.29	31.29	31.29	31.29	31.29
L-Glutamic Acid	7.35	7.35	7.35	7.35	7.35
L-Glutamine	–	–	–	–	–
L-Histidine Hydrochloride monohydrate	31.48	31.48	31.48	31.48	31.48
L-Isoleucine	54.47	54.47	54.47	54.47	54.47
L-Leucine	59.05	59.05	59.05	59.05	59.05
L-Lysine Hydrochloride	91.25	91.25	91.25	91.25	91.25
L-Methionine	17.24	17.24	17.24	17.24	17.24
L-Phenylalanine	35.48	35.48	35.48	35.48	35.48
L-Proline	17.25	17.25	17.25	17.25	17.25
L-Serine	26.25	26.25	26.25	26.25	26.25
L-Threonine	53.45	53.45	53.45	53.45	53.45
L-Tryptophan	9.02	9.02	9.02	9.02	9.02
L-Tyrosine Disodium Salt dihydrate	55.79	55.79	55.79	55.79	55.79
L-Valine	52.85	52.85	52.85	52.85	52.85
<b>Vitamin</b>					
Biotin	0.0035	0.0035	0.0035	0.0035	0.0035
Choline Chloride	8.98	8.98	8.98	8.98	8.98
D-Calcium Pantothenate	2.24	2.24	2.24	2.24	2.24
Folic Acid	2.65	2.65	2.65	2.65	2.65
Niacinamide	2.02	2.02	2.02	2.02	2.02
Pyridoxine Hydrochloride	2	2	2	2	2
Riboflavin	0.219	0.219	0.219	0.219	0.219
Thiamine Hydrochlorid	2.17	2.17	2.17	2.17	2.17
Vitamin B12	0.68	0.68	0.68	0.68	0.68
Meso-inositol	12.6	12.6	12.6	12.6	12.6
<b>Others</b>					
D-Glucose	–	–	–	–	–
HEPES	3574.5	–	3574.5	–	3574.5
Hypoxanthine Sodium Salt	2.39	2.39	2.39	2.39	2.39
Linoleic Acid	0.042	0.042	0.042	0.042	0.042
Lipoic Acid	0.105	0.105	0.105	0.105	0.105
Phenol Red	–	8.1	8.1	–	–
Putrescine Dihydrochloride	0.081	0.081	0.081	0.081	0.081
Sodium Pyruvate	55	55	55	55	55
Thymidine	0.365	0.365	0.365	0.365	0.365