

## Product Information

### Dulbecco's Modified Eagle's Medium (DME)

Many modifications of Eagle's Medium have been developed since the original formulation appeared in the literature. Among the most widely used of these modifications is Dulbecco's Modified Eagle's Medium (DME).

DME is a modification of Basal Medium Eagle (BME) that contains a 4-fold higher concentration of amino acids and vitamins, as well as additional supplementary components. The original DME formula, first reported for culturing embryonic mouse cells, contained 1,000 mg/L of glucose. An alteration with 4,500 mg/L glucose is optimal in cultivating certain cell types.

	D0422	D1145	D0819	D1152	D2429	D2902	D5030	D5523
	[1×]	[1×]	[1×]	[powder]	[10×]	[powder]	[powder]	[powder]
COMPONENT	g/L	g/L	g/L	g/L	g/L	g/L	g/L	g/L
<b>Inorganic Salts</b>								
CaCl <sub>2</sub>	0.2	0.2	0.2	0.2	2	0.2	0.2	0.2
Fe(NO <sub>3</sub> ) <sub>3</sub> • 9H <sub>2</sub> O	0.0001	0.0001	0.0001	0.0001	0.001	0.0001	0.0001	0.0001
MgSO <sub>4</sub>	0.09767	0.09767	0.09767	0.09767	0.9767	0.09767	0.09767	0.09767
KCl	0.4	0.4	0.4	0.4	4	0.4	0.4	0.4
NaHCO <sub>3</sub>	3.7	3.7	3.7	—	—	—	—	—
NaCl	6.4	6.4	6.4	4.4	64	6.4	6.4	6.4
NaH <sub>2</sub> PO <sub>4</sub>	0.109	0.109	0.109	0.109	1.09	0.109	0.109	0.109
<b>Amino Acids</b>								
L-Alanyl-L-Glutamine	—	—	0.869	—	—	—	—	—
L-Arginine • HCl	0.084	0.084	0.084	0.084	0.84	0.084	0.084	0.084
L-Cysteine • 2HCl	—	0.0626	0.0626	0.0626	0.626	0.0626	0.0626	0.0626
L-Glutamine	—	—	—	0.584	—	0.584	—	0.584
Glycine	0.03	0.03	0.03	0.03	0.3	0.03	0.03	0.03
L-Histidine • HCl • H <sub>2</sub> O	0.042	0.042	0.042	0.042	0.42	0.042	0.042	0.042
L-Isoleucine	0.105	0.105	0.105	0.105	1.05	0.105	0.105	0.105
L-Leucine	0.105	0.105	0.105	0.105	1.05	0.105	0.105	0.105
L-Lysine • HCl	1.46	0.146	0.146	0.146	1.46	0.146	0.146	0.146
L-Methionine	—	0.03	0.03	0.03	0.3	0.03	0.03	0.03
L-Phenylalanine	0.066	0.066	0.066	0.066	0.66	0.066	0.066	0.066
L-Serine	0.042	0.042	0.042	0.042	0.42	0.042	0.042	0.042
L-Threonine	0.095	0.095	0.095	0.095	0.95	0.095	0.095	0.095
L-Tryptophan	0.016	0.016	0.016	0.016	0.16	0.016	0.016	0.016
L-Tyrosine • 2Na • 2H <sub>2</sub> O	0.10379	0.6351	0.10379	0.10379	1.0379	0.10379	0.10379	0.10379
L-Valine	0.094	0.094	0.094	0.094	0.94	0.094	0.094	0.094
<b>Vitamins</b>								
Choline Chloride	0.004	0.004	0.004	0.004	0.04	0.004	0.004	0.004
Folic Acid	0.004	0.004	0.004	0.004	-	0.004	0.004	0.004
myo-Inositol	0.0072	0.0072	0.072	0.0072	0.072	0.0072	0.0072	0.0072
Niacinamide	0.004	0.004	0.004	0.004	0.04	0.004	0.004	0.004
D-Pantothenic Acid • ½Ca	0.004	0.004	0.004	0.004	0.04	0.004	0.004	0.004
Pyridoxal • HCl	—	—	—	0.004	—	0.004	0.004	0.004
Pyridoxine • HCl	0.004	0.004	0.004	—	0.04	—	—	—
Riboflavin	0.0004	0.0004	0.0004	0.0004	0.004	0.0004	0.0004	0.0004
Thiamine • HCl	0.004	0.004	0.004	0.004	0.04	0.004	0.004	0.004
<b>Other</b>								
D-Glucose	4.5	4.5	4.5	4.5	10	1.0	—	1.0
HEPES	—	—	—	5.958	—	—	—	—
Phenol Red • Na	0.0159	—	0.0159	0.0159	0.159	—	—	0.0159
Pyruvic Acid • Na	0.11	—	—	—	1.1	0.11	—	0.11
<b>ADD</b>								
Glucose	—	—	—	—	—	—	1.0	—
L-Glutamine	0.584	0.584	—	—	0.584 at 1×	—	0.584	—
NaHCO <sub>3</sub>	—	—	—	3.7	3.7 at 1×	3.7	3.7	3.7

	D5546	D5648	D5671	D5796	D5921	D6046	D6171	D6429
	[1×]	[powder]	[1×]	[1×]	[1×]	[1×]	[1×]	[1×]
COMPONENT	g/L	g/L	g/L	g/L	g/L	g/L	g/L	g/L
<b>Inorganic Salts</b>								
CaCl <sub>2</sub>	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Fe(NO <sub>3</sub> ) <sub>3</sub> • 9H <sub>2</sub> O	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
MgSO <sub>4</sub>	0.09767	0.09767	0.09767	0.09767	0.09767	0.09767	0.09767	0.09767
KCl	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
NaHCO <sub>3</sub>	3.7	—	3.7	3.7	3.7	3.7	3.7	3.7
NaCl	6.4	6.4	6.4	6.4	6.4	6.4	4.4	6.4
NaH <sub>2</sub> PO <sub>4</sub>	0.109	0.109	0.109	0.109	0.109	0.109	0.109	0.109
<b>Amino Acids</b>								
L-Alanyl-L-Glutamine	—	—	—	—	—	—	—	—
L-Arginine • HCl	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084
L-Cysteine • 2HCl	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626
L-Glutamine	—	0.584	—	0.584	—	0.584	—	0.584
Glycine	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
L-Histidine • HCl • H <sub>2</sub> O	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042
L-Isoleucine	0.105	0.105	0.105	0.105	0.105	0.105	0.105	0.105
L-Leucine	0.105	0.105	0.105	0.105	0.105	0.105	0.105	0.105
L-Lysine • HCl	0.146	0.146	0.146	0.146	0.146	0.146	0.146	0.146
L-Methionine	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
L-Phenylalanine	0.066	0.066	0.066	0.066	0.066	0.066	0.066	0.066
L-Serine	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042
L-Threonine	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095
L-Tryptophan	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016
L-Tyrosine • 2Na • 2H <sub>2</sub> O	0.10379	0.10379	0.10379	0.10379	0.10379	0.10379	0.10379	0.10379
L-Valine	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094
<b>Vitamins</b>								
Choline Chloride	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Folic Acid	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
<i>myo</i> -Inositol	0.0072	0.0072	0.0072	0.0072	0.0072	0.0072	0.0072	0.0072
Niacinamide	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
D-Pantothenic Acid • ½Ca	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Pyridoxal • HCl	—	0.004	—	—	—	—	—	—
Pyridoxine • HCl	0.004	—	0.004	0.004	0.004	0.004	0.004	0.004
Riboflavin	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
Thiamine • HCl	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
<b>Other</b>								
D-Glucose	1.0	4.5	4.5	4.5	1.0	1.0	4.5	4.5
HEPES	—	—	—	—	—	—	5.958	—
Phenol Red • Na	0.0159	0.0159	0.0159	0.0159	—	0.0159	0.0159	0.0159
Pyruvic Acid • Na	0.11	—	—	—	—	0.11	—	0.11
<b>ADD</b>								
Glucose	—	—	—	—	—	—	—	—
L-Glutamine	0.584	—	0.584	—	0.584	—	0.584	—
NaHCO <sub>3</sub>	—	3.7	—	—	—	—	—	—

	<b>D6546</b>	<b>D7777</b>	<b>D9443</b>
	[1×]	[powder]	[1×]
<b>COMPONENT</b>	g/L	g/L	g/L
<b>Inorganic Salts</b>			
CaCl <sub>2</sub>	0.2	0.2	0.2
Fe(NO <sub>3</sub> ) <sub>3</sub> • 9H <sub>2</sub> O	0.0001	0.0001	0.0001
MgSO <sub>4</sub>	0.09767	0.09767	0.09767
KCl	0.4	0.4	0.4
NaHCO <sub>3</sub>	3.7	—	3.7
NaCl	6.4	6.4	6.4
NaH <sub>2</sub> PO <sub>4</sub>	0.109	0.109	0.109
<b>Amino Acids</b>			
L-Alanyl-L-Glutamine	—	—	—
L-Arginine • HCl	0.084	0.084	—
L-Cysteine • 2HCl	0.0626	0.0626	0.0626
L-Glutamine	—	0.584	0.584
Glycine	0.03	0.03	0.03
L-Histidine • HCl • H <sub>2</sub> O	0.042	0.042	0.042
L-Isoleucine	0.105	0.105	0.105
L-Leucine	0.105	0.105	—
L-Lysine • HCl	0.146	0.146	—
L-Methionine	0.03	0.03	0.03
L-Phenylalanine	0.066	0.066	0.066
L-Serine	0.042	0.042	0.042
L-Threonine	0.095	0.095	0.095
L-Tryptophan	0.016	0.016	0.016
L-Tyrosine • 2Na • 2H <sub>2</sub> O	0.10379	0.10379	0.10379
L-Valine	0.094	0.094	0.094
<b>Vitamins</b>			
Choline Chloride	0.004	0.004	0.004
Folic Acid	0.004	0.004	0.004
<i>myo</i> -Inositol	0.0072	0.0072	0.0072
Niacinamide	0.004	0.004	0.004
D-Pantothenic Acid • ½Ca	0.004	0.004	0.004
Pyridoxal • HCl	—	0.004	—
Pyridoxine • HCl	0.004	—	0.004
Riboflavin	0.0004	0.0004	0.0004
Thiamine • HCl	0.004	0.004	0.004
<b>Other</b>			
D-Glucose	4.5	4.5	1.0
HEPES	—	—	—
Phenol Red • Na	0.0159	0.0159	—
Pyruvic Acid • Na	0.11	0.11	—
<b>ADD</b>			
NaHCO <sub>3</sub>	—	3.7	—
L-Glutamine	0.584	—	—
Glucose	—	—	—

## References

1. Dulbecco, R., and Freeman, G., Plaque Production by the Polyoma Virus. *Virology*, **8**, 396-397 (1959).
2. Smith, J.D., Freeman, G., Vogt, M., and Dulbecco, R., The Nucleic Acid of Polyoma. *Virus*, **12**, 185-196 (1960).
3. Morton, H.J., A Survey of Commercially Available Tissue Culture Media. *In Vitro*, **6**, 89 (1970).
4. Rutzky, L.P., and Pumper, R.W., Supplement to a Survey of Commercially Available Tissue Culture Media (1970). *In Vitro*, **9**, 468 (1974).