

## 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>                                     | 0.265   | 0.265   | 0.2     | 0.2      | 2.65        | 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-Cystine • 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  | 0.146   | 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                  | 0.12037 | 0.12037 | 0.10379 | 0.10379  | —           | 0.10379  | 0.10379  | 0.10379  |
| L-Tyrosine  | —       | —       | —       | —        | 1.13033     | —        | —        | —        |
| 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  | 0.0072  | 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                                      | 0.00404 | 0.00404 | 0.00404 | —        | 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     | 0.265   | 0.2     | 0.0265  | 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 | 0.12037 | 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                                      | 0.00404 | —        | 0.00404 | 0.00404 | 0.00404 | 0.00404 | 0.00404 | 0.00404 |
| 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> | <b>D0572</b> | <b>D0822</b> |
|---|--------------|--------------|--------------|--------------|--------------|
|   | [1· ]        | [powder]     | [1· ]        | [1· ]        | [1· ]        |
| <b>COMPONENT</b>                                      | g/L          | g/L          | g/L          | g/L          | g/L          |
| <b>Inorganic Salts</b>                                |              |              |              |              |              |
| CaCl <sub>2</sub>                                     | 0.2          | 0.2          | 0.2          | 0.265        | 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       |
| MgSO <sub>4</sub>                                     | 0.09767      | 0.09767      | 0.09767      | 0.09767      | 0.09767      |
| KCl   | 0.4          | 0.4          | 0.4          | 0.4          | 0.4          |
| NaHCO <sub>3</sub>                                    | 3.7          | —            | 3.7          | 3.7          | 3.7          |
| NaCl  | 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        |
| <b>Amino Acids</b>                                    |              |              |              |              |              |
| L-Alanyl-L-Glutamine                                  | —            | —            | —            | 0.869        | 0.868        |
| L-Arginine • HCl                                      | 0.084        | 0.084        | —            | 0.084        | 0.084        |
| L-Cysteine • 2HCl                                     | 0.0626       | 0.0626       | 0.0626       | 0.0626       | 0.0626       |
| L-Glutamine   | —            | 0.584        | 0.584        | —            | —            |
| Glycine   | 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        |
| L-Isoleucine  | 0.105        | 0.105        | 0.105        | 0.105        | 0.105        |
| L-Leucine   | 0.105        | 0.105        | —            | 0.105        | 0.105        |
| L-Lysine • HCl  | 0.146        | 0.146        | —            | 0.146        | 0.146        |
| L-Methionine  | 0.03         | 0.03         | 0.03         | 0.03         | 0.03         |
| L-Phenylalanine                                       | 0.066        | 0.066        | 0.066        | 0.066        | 0.066        |
| L-Serine  | 0.042        | 0.042        | 0.042        | 0.042        | 0.042        |
| L-Threonine   | 0.095        | 0.095        | 0.095        | 0.095        | 0.095        |
| L-Tryptophan  | 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      |
| L-Tyrosine  | —            | —            | 0.10379      | —            | —            |
| L-Valine  | 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        |
| Folic Acid  | 0.004        | 0.004        | 0.004        | 0.004        | 0.004        |
| <i>myo</i> -Inositol                                  | 0.0072       | 0.0072       | 0.0072       | 0.0072       | 0.0072       |
| Niacinamide   | 0.004        | 0.004        | 0.004        | 0.004        | 0.004        |
| D-Pantothenic Acid • ½Ca                              | 0.004        | 0.004        | 0.004        | 0.004        | 0.004        |
| Pyridoxal • HCl                                       | —            | 0.004        | —            | —            | —            |
| Pyridoxine • HCl                                      | 0.004        | —            | 0.004        | 0.004        | 0.004        |
| Riboflavin  | 0.0004       | 0.0004       | 0.0004       | 0.0004       | 0.0004       |
| Thiamine • HCl  | 0.004        | 0.004        | 0.004        | 0.004        | 0.004        |
| <b>Other</b>  |              |              |              |              |              |
| D-Glucose   | 4.5          | 4.5          | 1.0          | 4.5          | 4.5          |
| HEPES   | —            | —            | —            | 5.958        | —            |
| Phenol Red • Na                                       | 0.0159       | 0.0159       | —            | 0.0159       | 0.0159       |
| Pyruvic Acid • Na                                     | 0.11         | 0.11         | —            | —            | 0.11         |
| <b>ADD</b>  |              |              |              |              |              |
| NaHCO <sub>3</sub>                                    | —            | 3.7          | —            | —            | —            |
| L-Glutamine   | 0.584        | —            | —            | 0.584        | —            |
| Glucose   | —            | —            | —            | —            | —            |

## References

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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).