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Product Information

Iscove's Modified Dulbecco's Medium (IMDM)

Guilbert and Iscove demonstrated precursor cells of erythrocytes and macrophages could be cultured in a totally defined serum-free medium supplemented with albumin, transferrin, lecithin, and selenium. This medium is a modification of Dulbecco's Modified Eagle's Medium (DME) containing selenium, additional amino acids and vitamins, sodium pyruvate, HEPES buffer, and potassium nitrate instead of ferric nitrate. Further studies demonstrated Iscove's Medium would support murine B lymphocytes, hemopoietic tissue from bone marrow, B cells stimulated with lipopolysaccharide, T lymphocytes, and a variety of hybrid cells.

	I7633	**I3390**	**I6529**	**I2911**	**51471C**
	[Powder]	[1×]	[1×]	[1×]	[1×]
COMPONENT	g/L	g/L	g/L	g/L	g/L
Inorganic Salts					
$CaCl_2$	0.1653	0.1653	0.1653	0.1653	0.165
$MgSO_4$	0.9767	0.09767	0.09767	0.09767	0.09767
KCl	0.33	0.33	0.33	0.33	0.33
KNO_3	0.000076	0.000076	0.000076	0.000076	0.000076
$NaHCO_3$	—	3.024	3.024	3.024	3.024
NaCl	4.505	4.505	4.505	4.505	4.505
NaH_2PO_4	0.109	0.109	0.109	0.109	—
$NaH_2PO_4 \cdot H_2O$	—	—	—	—	0.125
Na_2SeO_3	0.000017	0.000017	0.000017	0.000017	0.000017
Amino Acids					
L-Alanine	0.025	0.025	0.025	0.025	0.025
L-Alanyl-L-Glutamine	—	—	—	0.869	—
L-Arginine • HCl	0.084	0.084	0.084	0.084	0.084
L-Asparagine • H_2O	0.0284	0.0284	0.0284	0.0284	0.0284
L-Aspartic Acid	0.03	0.03	0.03	0.03	0.03
L-Cystine • 2HCl	0.09124	0.09124	0.09124	0.09124	0.09124
L-Glutamic Acid	0.075	0.075	0.075	0.075	0.075
L-Glutamine	0.584	—	0.584	—	0.584
Glycine	0.03	0.03	0.03	0.03	0.03
L-Histidine • HCl • H_2O	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	0.105
L-Lysine • HCl	0.146	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-Proline	0.04	0.04	0.04	0.04	0.04
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 • $2H_2O$	0.10379	0.10379	0.10379	0.10379	0.10379
L-Valine	0.094	0.094	0.094	0.094	0.094
Vitamins					
D-Biotin	0.000013	0.000013	0.000013	0.000013	0.000013
Choline Chloride	0.004	0.004	0.004	0.004	0.004
Folic Acid	0.004	0.004	0.004	0.004	0.004
myo-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	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
Vitamin B_{12}	0.000013	0.000013	0.000013	0.000013	0.000013

Other					
D-Glucose	4.5	4.5	4.5	4.5	4.5
HEPES	5.958	5.958	5.985	5.985	5.958
Phenol Red • Na	0.016	0.016	0.016	0.016	0.016
Pyruvic Acid • Na	0.11	0.11	0.11	0.11	0.11
ADD					
L-Glutamine	—	0.584	—	—	—
$NaHCO_3$	3.024	—	—	—	—

References

1. Iscove, N.N., and Melchers, F., Complete Replacement of Serum by Albumin, Transferrin, and Soybean Lipid in Cultures of Lipopolysaccharide-Reactive B Lymphocytes. J. Exp. Medicine, **147**, 923-933 (1978).
2. Iscove, N.N. et al., Complete Replacement of Serum in Primary Cultures of Erythropoietin Dependent Red Cell Precursers [CFU-E] by Albumin, Transferrin, Iron, Unsaturated Fatty Acid, Lecithin and Cholesterol. Exp. Cell Research, **126**, 121-126 (1980).

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