ProductInformation

Ames' Medium

The retina has become increasingly important as an in vitro model for the central nervous system. It is more readily accessible than most nervous tissue and is strong enough to remain intact during manipulations of the tissue. The retina of the rabbit commonly contains no penetrating blood vessels, but is nurtured by diffusion from capillary networks on either side. For this reason, the tissue will survive and function without circulating blood, as long as it is bathed in a medium that most closely resembles the fluid that bathed it in vivo. Ames' Medium was formulated to support retinal tissue in relatively short-term culture. Rabbit retina has been incubated in Ames' Medium for over 2 days with its metabolism and electrical responses to photic stimuli well maintained. This mixture remains the medium of choice for maintaining central nervous system tissue in vitro.

COMPONENT	A 1420 g/L
INORGANIC SALTS	
$CaCl_2 \cdot 2H_2O$	0.169
$MgSO_4$	0.1488
KCl	0.231
KH_2PO_4 (anhyd)	0.068
NaCl	7.01
AMINO ACIDS	
L-Alanine	0.0024
L-Arginine•HCl	0.00421
L-Asparagine (anhyd)	0.00084
L-Aspartic Acid	0.00012
L-Cystine•2HCl	0.000065
L-Glutamine	0.073
L-Glutamic Acid•Na	0.001183
Glycine	0.00045
L-Histidine•HCl•H_2O	0.002513
L-Isoleucine	0.00058
L-Leucine	0.00144
Lysine•HCl	0.003648
L-Methionine	0.00039
L-Phenylalanine	0.00132
L-Proline	0.00007
L-Serine	0.00252
Taurine	0.00075
L-Threonine	0.00333
L-Tryptophan	0.00049
L-Tyrosine•2Na•$2H_2O$	0.00211
L-Valine	0.00176
VITAMINS	
Ascorbic Acid•Na	0.01796
D-Biotin	0.0001
Choline Chloride	0.0007
Folic Acid	0.0001
myo-Inositol	0.0272
Niacinamide	0.0001
D-Pantothenic Acid•½Ca	0.0001
Pyridoxal•HCl	0.0001
Riboflavin	0.00001
Thiamine•HCl	0.0001

COMPONENT	A 1420 g/L
OTHER	
Cytidine	0.00073
D-Glucose	1.081
Hypoxanthine	0.00082
Pyruvic Acid•Na	0.01333
Thymidine	0.00024
Uridine	0.00073
ADD	
Sodium Bicarbonate	1.9
Grams of powder required to prepare 1 L	8.9

REFERENCE

1. Ames, A. and Nesbett, F. (1981). In Vitro Retina as an Experimental Model of the Central Nervous System. J. Neurochem. 37:867.