Product Information Sheet

T7954
TM4 Basal Medium

Properties

Form:	Powder
Appearance:	White to Yellow
Application:	Plant Tissue Culture
Solubility:	Soluble in Water
Typical Working Concentration:	2.99 g/L
Storage Temp:	2 – 6° C
Storage Temp of Stock Solution:	Concentrated solutions are not recommended as insolubles may form.
Other Notes:	Contains the micro- and macronutrients as well as the vitamins described by Shahin (1984) in his research with tomato protoplasts. He notes the concentration of potassium iodide used in his work as 0.38g/L. This amount is presumed to be a typo due to cross reference of this medium formulation with his patent (#4634674) also describing this medium, but with 0.83 g/L KI. His patent also mentions the addition of casein hydrolysate, which is not included in this formulation. His patent does not include choline chloride at 0.1 mg/L, while it is included in his research paper (1984), and is included in this formulation.

Formula (mg/L)

Ammonium Nitrate	320
Ammonium Phosphate, Monobasic	230
Ammonium Sulfate	134
Boric Acid	6.2
Calcium Chloride, Anhydrous	113.25
Cobalt Chloride•$6H_2O$	0.025
Cupric Sulfate•$5H_2O$	0.025
Na_2 EDTA •$2H_2O$	18.5
Ferrous Sulfate	13.9
Magnesium Sulfate, Anhydrous	122.12
Manganese Sulfate•H_2O	16.9
Molybdic Acid (Sodium Salt)•$2H_2O$	0.25

Potassium Iodide	0.83
Potassium Nitrate	1900
Zinc Sulfate•$7H_2O$	8.6
D-Biotin	0.05
Choline Chloride	0.10
Folic Acid	0.5
Glycine (Free Base)	2.5
myo-Inositol	100
Nicotinic Acid (Free Acid)	5
Pyridoxine•HCl	0.5
Thiamine•HCl	0.5

Application Notes

Plant Tissue Culture Tested

This medium was used in Shahin's (1984) research to regenerate shoots from protoplast derived calli of tomato.

References

Shahin E. A. (1984) Totipotency of tomato protoplasts. Theoretical and Applied Genetics. 69(3): 235-240, DOI: 10.1007/BF00662431.

Shahin E. A. (1987) US Patent 4,634,674.

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