



Product Information Sheet

Murashige and Skoog Media

PhytoTechnology Laboratories® offers the largest selection of Murashige and Skoog-based media available to plant tissue culturists. These media range from the basic salt formulations to media complete with gelling agents, vitamins, carbohydrates and plant growth regulators.

All of our media are manufactured according to cGMP's procedures in our environmentally controlled manufacturing facility in Overland Park, KS. Each medium is then tested for specific physio-chemical specifications. The medium is also biologically tested with two commercially significant plant cell lines. PhytoTechnology Laboratories® is committed to maintaining inventory of its entire plant tissue culture media. Some features of our manufactured media include:

- All media components meet USP or ACS quality standards where applicable
- PhytoTechnology Laboratories® has the capacity to manufacture lots of certain media in up to 50,000 liters batch sizes.
- Using Powder Media simplifies media preparation and reduces technician error when preparing media batches.
- PhytoTechnology Laboratories® can custom package your media into sizes that fit your normal batch production of media. This reduces time in weighing and allows you to simply open the bottle and pour out the entire contents.
- Using PhytoTechnology Laboratories® Lot Reservation Program for manufactured media allows you to use the same lot of medium for up to one year. This reservation program is offered to you at no additional cost.
- Custom liquid and powdered media can be manufactured for you using your confidential formulation in lots ranging from 100 liters up to 25,000 liters. Contact us for more details.
- Powdered Media has a shelf life of 2-3 years whereas stock solutions should be made fresh every 3-6 months.
- There is no minimum order with PhytoTechnology Laboratories®.



Note: Linsmaier & Skoog (LS) Medium contains the same inorganic salts as Murashige & Skoog (MS) Medium.

LS Medium differs from MS Medium ONLY in the vitamin content.

The composition of vitamins in each basal medium is noted after the MS-based media table on the following pages.

PhytoTechnology Laboratories®

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The following table is provided to aid in the selection of MS-based media for use in your research or micropropagation applications. Email insidesales@mandel.ca for complete composition.

Prod. No.	Product Description	Sucrose g/L	Agar g/L	Vitamins	IAA mg/L	NAA mg/L	6-BA mg/L	2iP mg/L	Kinetin mg/L	Other
L467	Linsmaier & Skoog Medium	30.0	7.0	LS						
L689	Linsmaier & Skoog Basal Salts			LS						
M153	Modified MS Basal Salts									½ Macro and ½ Micros
M290	Modified MS Basal Salts									½ Ammonium Nitrate, ½ Potassium Nitrate, ½ Calcium Chloride
M401	MS Modified Basal Medium	30.0		MS		0.1	1.0			
M404	MS Basal Medium w/ Gamborg's Basal Salt Vitamins			Gamborg						
M407	Modified MS Basal Salt Mixture									Contains no Nitrogen, Potassium or Phosphorous
M419	MG Basal Salt Mixture									Modified Murashige/ Gamborg's Basal Salts
M502	MS Macronutrient Salt Base									Macronutrients (Salts) Only
M508	Murashige Modified Fern Multiplication Medium			LS		0.1			2.0	Contains 255.0 mg of Sodium Phosphate
M509	Murashige Modified Gerbera Multiplication Basal Medium			MS	0.5				10.0	Contains 85.0 mg Sodium Phosphate; 80.0 mg Adenine Hemisulfate; 100 mg L-Tyrosine
M510	Murashige Modified Gerbera Pretransplant Basal Medium			MS	10.0					Contains 85.0 mg Sodium Phosphate; 100 mg L-Tyrosine
M511	Murashige Modified Kalanchoe Multiplication Basal Medium			LS				3.0		
M516	Murashige BC Potato Basal Medium			Modified MS					0.04	
M517	Murashige Modified African Violet/ Gloxinia Multiplication Basal Medium			LS	2.0				2.0	Contains 170.0 mg Sodium Phosphate, 80.0 mg Adenine Hemisulfate
M518	Murashige Modified African Violet/ Gloxinia Pretransplant Basal Medium			LS	1.0					
M519	MS Basal Medium w/ Vitamins			MS						



Product Information Sheet

MS-based media continued

Prod. No.	Product Description	Sucrose g/L	Agar g/L	Vitamins	IAA mg/L	NAA mg/L	6-BA mg/L	2iP mg/L	Kinetin mg/L	Other
M524	MS Basal Salts									Inorganic Salts Only
M527	Murashige Modified Multiplication Basal Medium			LS	0.3				1.0	
M529	MS Micronutrient Stock Solution									Liquid Form; Micronutrients (Salts) Only
M531	Modified MS Basal Salt Mixture									Contains No Nitrogen
M533	MS Vitamin Powder			MS						Powder Form; 1000X
M535	MS Modified Basal Medium			LS						Contains 80.0 mg Adenine Hemisulfate
M536	MS Modified Multiplication Basal Medium									Contains 170.0 mg Sodium Phosphate, 80.0 mg Adenine Hemisulfate, and 0.4 mg Thiamine
M541	Modified MS Basal Medium									Does not contain Potassium Phosphate
M547	MS Modified Vitamin Powder			Modified MS						Powder Form; MS Vitamins w/ 1,000 mg Thiamine; 1000X
M553	MS Vitamin Solution			MS						Liquid Form; 1000X
M554	MS Micronutrient Salt Base									Micronutrients (Salts) Only
M555	MS Modified Multiplication Medium	30		LS		0.1			1.0	Contains 148.0 mg Sodium Phosphate; 80.0 mg Adenine Hemisulfate
M557	MS Modified Vitamin Solution			Modified MS						Liquid Form; 1000X; MS Vitamins w/ 1,000 mg Thiamine
M561	Modified MS Basal Salt Mixture									Contains ½ Ammonium Nitrate and ½ Potassium Nitrate
M571	Modified MS Basal Salt Mixture									Does not contain Ammonium Nitrate
M654	MS Macronutrient Stock Solution									Liquid Form; Macronutrients (Salts) Only
M701 (M506)	MS Modified Basal Medium			LS	1.0			10.0		Contains 30 mg Adenine Hemisulfate
M702	MS Modified Basal Medium	30		LS	0.3					Contains 148 mg Sodium Phosphate and 80 mg Adenine Hemisulfate

MS Vitamins contains 2.0 mg Glycine, 0.5 mg Nicotinic Acid, 100 mg myo-Inositol, 0.5 mg Pyridoxine HCl, and 0.1 mg Thiamine HCl.

LS Vitamins contains 100 mg myo-Inositol and 0.1 mg Thiamine HCl.

Gamborg Vitamins contains 1.0 mg Nicotinic Acid, 100 mg myo-Inositol, 1.0 mg Pyridoxine HCl, and 10.0 mg Thiamine HCl.