



Product Information Sheet

P6800 PhytoSelect Basal Medium

Properties

Form:	Powder
Appearance:	Off-White, may have slight purple tint
Solubility:	Soluble in Boiling Water
Application:	Seed Testing, Plant Pathology, Microbiology
Storage Temp:	Room Temperature
Typical Working Concentration:	24.93 g/L
Other Notes:	Includes 15 g/L Agar. Contains Crystal Violet. ADP-Free product Requires addition of antibiotics and a specific carbon source to be a complete selection medium.

Formula (mg/L)

Ammonium Chloride	1000	Potassium Phosphate	3000
Crystal Violet	3	Sodium Phosphate	5665
Ferrous Sulfate, Heptahydrate	9	Agar	15000
Magnesium Sulfate	250		

Application Notes

PhytoSelect Basal Medium is formulated based on the SMART media system developed by Kawanishi et al. (2011). SMART is an acronym for: Selective Medium-Design Algorithm Restricted by Two Constraints. The two constraints that are varied to select for different microorganisms are the carbon source and the antibiotics chosen for selection.

This basal medium contains all the main components found in each of the SMART selection media (does not contain the carbon source or antibiotics). The SMART medium formulation is ADP-Free and uses the same standard components for the basal medium, but varies the carbohydrate source along with the antibiotics to be able to select for different plant pathogens. Kawanishi et al. (2011) report that their developed media have advantages over ADP (Animal Derived Products) containing media, stating that the lack of ADP products allows their formulation to be more selective for particular microorganisms. This reduces the amount of false colonies, and increases the selectivity of the medium.

Kawanishi et al. (2011) have published 5 selection media so far for the following plant pathogens:

Burkholderia glumae, *Acidovorax avenae*, *Pectobacterium carotovorum*, *Ralstonia solanacearum*, and *Xanthomonas campestris*.

The following page contains a table listing all 5 media formulations, as well as Phytotech's product numbers for the associated components. The antibiotic solutions that we manufacture are sterile and should be added aseptically after autoclaving, when the medium is cool enough to handle.

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Composition of the selective media developed by Kawanishi et al (2011). Weights listed are the amounts needed to make 1L of selection medium.

SMART-Bgl medium			SMART-Aac medium			SMART-Pca medium		
Prod #	For <i>Burkholderia glumae</i>		Prod #	For <i>Acidovorax avenae</i>		Prod #	For <i>Pectobacterium carotovorum</i>	
S744	D-sorbitol	1 g	M539	L-methionine	1 g	T7968	Trehalose	1 g
P6800	PhytoSelect Basal Medium	24.93 g	P6800	PhytoSelect Basal Medium	24.93 g	P6800	PhytoSelect Basal Medium	24.93 g
C1989 C1796	Cycloheximide: Powder <u>or</u> Solution (100 mg/mL)	50 mg 0.5 mL	C1989 C1796	Cycloheximide: Powder <u>or</u> Solution (100 mg/mL)	50 mg 0.5 mL	C1989 C1796	Cycloheximide: Powder <u>or</u> Solution (100 mg/mL)	50 mg 0.5 mL
A116 A1116	Ampicillin: Powder <u>or</u> Solution (100 mg/mL)	10 mg 0.1 mL	A116 A1116	Ampicillin: Powder <u>or</u> Solution (100 mg/mL)	10 mg 0.1 mL	H276 H3818	Cetrimonium (CTAB): Powder <u>or</u> Solution (100 mg/mL)	10 mg 0.10 mL
H276 H3818	Cetrimonium (CTAB): Powder <u>or</u> Solution (100 mg/mL)	10 mg 0.10 mL	H276 H3818	Cetrimonium (CTAB): Powder <u>or</u> Solution (100 mg/mL)	10 mg 0.10 mL	N/A N/A	Tyrothricin: Powder <u>or</u> Solution (10 mg/mL)	10 mg 1.0 mL
C252 C2010	Chloramphenicol: Powder <u>or</u> Solution (10 mg/mL)	10 mg 1.0 mL	P6809 P6719	Polymixin B: Powder <u>or</u> Solution (10 mg/mL)	10 mg 1.0 mL			

SMART-Rso medium			SMART-Xca medium		
Prod #	For <i>Ralstonia solanacearum</i>		Prod #	For <i>Xanthomonas campestris</i>	
M562	D-Mannitol	1 g	G503	Glycine	1 g
P6800	PhytoSelect Basal Medium	24.93 g	P6800	PhytoSelect Basal Medium	24.93 g
C1989 C1796	Cycloheximide: Powder <u>or</u> Solution (100 mg/mL)	50 mg 0.5 mL	C1989 C1796	Cycloheximide: Powder <u>or</u> Solution (100 mg/mL)	50 mg 0.5 mL
C252 C2010	Chloramphenicol: Powder <u>or</u> Solution (10 mg/mL)	10 mg 1.0 mL	C1970 C2112	Cephalexin: Powder <u>or</u> Solution (100 mg/mL)	10 mg 0.10 mL
P6809 P6719	Polymixin B: Powder <u>or</u> Solution (10 mg/mL)	10 mg 1.0 mL	P777 P6767	Penicillin G: Powder <u>or</u> Solution (10 mg/mL)	10 mg 1.0 mL

Reference:

Kawanishi T, T Shiraishi, Y Okano, K Sugawara, M Hashimoto, K Maejima, K Komatsu, S Kakizawa, Y Yamaji, H Hamamoto, K Oshima, S Namba (2011) New Detection Systems of Bacteria Using Highly Selective Media Designed by SMART: Selective Medium-Design Algorithm Restricted by Two Constraints. PLoS ONE Volume 6, Issue 1.