



P6767
Penicillin G Solution (10 mg/ml)

Synonyms: (2S,5R,6R)-3,3-Dimethyl-7-oxo-6-[(phenylacetyl)amino]-4-thia-1-azabicyclo-[3.2.0]heptane-2-carboxylic Acid, Sodium Salt
CAS: 69-57-8
Formula: C₁₆H₁₇N₂O₄SNa
Mol. Weight: 356.4

Properties

Form: Liquid
Appearance: Clear, Colorless to Slight Yellow Tint
Solubility: Miscible with Water
Application: Seed Testing, Phytopathology, Microbiology
Storage Temp: -20-0°C
Typical Working Concentration: Varies with application, should be determined by end user.
Other Notes: Filter sterilized, add aseptically to medium after autoclaving.

Application Notes

Antimicrobial effective against gram-positive bacteria. Penicillin G kills gram-positive bacteria by interfering with the transpeptidase enzyme in the bacteria. This enzyme is responsible for the cross-linkage between the bacterial cell wall peptide chains. The interference of transpeptidase by Penicillin G causes the bacterial cell wall to become leaky. The salt gradient between the inside of the bacteria and the outside environment causes the bacteria cell to swell and eventually lyse (Patrick 1995).

Used with PhytoSelect Basal Medium (Prod # P6800) to select for *Xanthomonas campestris*. See Table on next page for the complete formulation for the selection media.

References

Merck 13, 7165
Patrick GL (1995) An introduction to medicinal chemistry. *Oxford University Press Inc.*, New York

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Product Information Sheet

Composition of the selective media developed by Kawanishi et al (2011). Amounts listed are 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.