StockOptions™

Polymer

HAMPTON RESEARCH
Solutions for Crystal Growth

User Guide **HR2-227 (pg 1)**

StockOptions™ Polymer is a ready to use set of sterile filtered stock polymer solutions designed for the crystallization of biological macromolecules. StockOptions Polymer reagents are supplied in varying concentrations, each concentration appropriate for each particular polymer's solubility and application as a primary or secondary precipitant, or additive in a crystallization experiment. StockOptions Polymer is comprised of 24 unique reagents.

Suggested Use

StockOptions Polymer is designed to help researchers improve the speed, accuracy, precision, and quality of the formulation of crystallization screen reagents and crystallization optimization reagents. Researchers can use the individual StockOptions reagents to conveniently formulate custom screen solutions or accurately reproduce standard screen solutions from Hampton Research kits such as Crystal Screen™, Crystal Screen Cryo™, Crystal Screen Lite™, Natrix™, Crystal Screen 2™, Index™, PEGRx™ 1, PEGRx™ 2 and PEG/Ion™. StockOptions Polymer reagents can also be used to create solutions for the refinement and optimization of preliminary crystallization conditions. Finally, StockOptions Polymer reagents can be used to create accurate, precise, reproducible, high quality solutions for the production of single crystals.

Example 1

Index Reagent 38 (D2) (1 ml plate reservoir)

Solution composition:
0.1 M HEPES pH 7.0, 30% v/v Jeffamine® M-600® pH 7.0
Suggested Stock Solutions:
1.0 M HEPES pH 7.0, 50% v/v Jeffamine® M-600® solution pH 7.0

1. Pipet 100 microliters of 1.0 M HEPES pH 7.0 into the plate reservoir.
2. Pipet 300 microliters of sterile filtered deionized water into the plate reservoir.
3. Pipet 600 microliters of 50% v/v Jeffamine® M-600® pH 7.0
4. Aspirate and dispense the solutions until homogeneous.

Example 2

Crystal Screen 2 Reagent 1 (1 ml plate reservoir)

Solution composition:
2.0 M Sodium chloride, 10% w/v Polyethylene glycol 6,000
Suggested Stock Solutions:
5.0 M Sodium chloride, 50% w/v Polyethylene glycol 6,000

1. Pipet 400 microliters of sterile filtered deionized water into the plate reservoir.
2. Pipet 200 microliters of 50% Polyethylene glycol 6,000 into the plate reservoir.
3. Pipet 400 microliters of 5.0 M Sodium chloride into the plate reservoir.
4. Aspirate and dispense the solutions until homogeneous.

Example 3

PEGRx™ 1 reagent 1 (1 ml plate reservoir)

Solution composition:
0.1 M Citric acid pH 3.5, 34% v/v Polyethylene glycol 200
Suggested Stock Solutions:
StockOptions 1.0 M Citric acid pH 3.5, 100% Polyethylene glycol 200

1. Pipet 560 microliters of sterile filtered deionized water into the plate reservoir.
2. Pipet 100 microliters of 1.0 M Citric acid pH 3.5 into the plate reservoir.
3. Pipet 340 microliters of 100% Polyethylene glycol 200 into the plate reservoir.
4. Aspirate and dispense the solution until homogeneous.

Example 4

A custom reagent of (1 ml plate reservoir)
10% Polyethylene glycol 400, 25% Polyvinylpyrrolidone K15

Suggested Stock Solutions:
100% Polyethylene glycol 400, 50% w/v Polyvinylpyrrolidone K15

1. Pipet 400 microliters of sterile filtered deionized water into the plate reservoir.
2. Pipet 100 microliters of 100% Polyethylene glycol 400 into the plate reservoir.
3. Pipet 500 microliters of 50% w/v Polyvinylpyrrolidone K15 into the plate reservoir.
4. Aspirate and dispense the solution until homogeneous.

Additional Information

Use Hampton Research StockOptions Polymer together with StockOptions pH Screens and other Optimize™ reagents to ensure quality and consistency. The reagents in Stockoptions Polymer are available in larger volumes from the Hampton Research Optimize line of reagents should larger volumes be required.

StockOptions Polymer reagents are aseptically filled into sterile tubes and purged with argon gas before tube closure to promote reagent stability. StockOptions Polymer reagents with concentrations less than 100% are formulated in Type 1+ ultrapure deionized water and sterile filtered using either 0.22 or 0.45 micron filters depending upon the viscosity of the reagent.

StockOptions Polymer reagents are stable at room temperature and are best if used within 12 months of receipt. To enhance reagent stability StockOptions Polymer can be stored at 4°C or -20°C. Avoid ultraviolet light to promote reagent stability.

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Technical Support

Inquiries regarding StockOptions Polymer reagent formulation, interpretation of screen results, optimization strategies and general inquiries regarding crystallization are welcome. Please e-mail, fax, or telephone your request to Hampton Research. Fax and e-mail Technical Support are available 24 hours a day. Telephone technical support is available 8:00 a.m. to 4:30 p.m. USA Pacific Standard Time.

Reagent Number	Reagent	Molecular Formula	Molecular Weight (M_r)	CAS Number
1.	50% w/v Jeffamine® ED-2001 pH 7.0	$CH_3CH(NH_2)CH_2(OCH_2CH_2)OCH_2CH(NH_2)CH_3$	~ 2,000	[65605-36-9]
2.	50% v/v Jeffamine® M-600® pH 7.0	$CH_3OCH_2CH_2O[CH(CH_3)CH_2O]_nCH_2CH(NH_2)CH_3$	~ 600	[77110-54-4]
3.	40% v/v Pentaerythritol ethoxylate (3/4 EO/OH)	$C(CH_2(OCH_2CH_2)_nOH)_4$	~ 270	[30599-15-6]
4.	50% v/v Pentaerythritol ethoxylate (15/4 EO/OH)	$C[CH_2(OCH_2CH_2)_nOH]_4$, n = 3.75	~ 797	[30599-15-6]
5.	50% v/v Pentaerythritol propoxylate (5/4 PO/OH)	$C[CH_2[OCH_2CH(CH_3)]_nOH]_4$ N ~ 5	~ 426	[9051-49-4]
6.	50% Ethylene imine polymer	$H_2NCH_2(C_{22}H_{55}N_{11})_nCH_2NH_2$	600,000 - 1,000,000	[9002-98-6]
7.	50% w/v Poly(acrylic acid sodium salt) 5,100	$(C_3H_3NaO_2)_n$	~ 5,100	[9003-04-7]
8.	100% Polyethylene glycol 200	$H(OCH_2CH_2)_nOH$	200 (190 - 210)	[25322-68-3]
9.	100% Polyethylene glycol 300	$H(OCH_2CH_2)_nOH$	285 - 315	[25322-68-3]
10.	100% Polyethylene glycol 400	$H(OCH_2CH_2)_nOH$	380 - 420	[25322-68-3]
11.	100% Polyethylene glycol 600	$H(OCH_2CH_2)_nOH$	570 - 630	[25322-68-3]
12.	50% w/v Polyethylene glycol 1,000	$H(OCH_2CH_2)_nOH$	950 - 1050	[25322-68-3]
13.	50% w/v Polyethylene glycol 1,500	$H(OCH_2CH_2)_nOH$	1,400 - 1,600	[25322-68-3]
14.	50% w/v Polyethylene glycol 3,350	$H(OCH_2CH_2)_nOH$	3,015 - 3,685	[25322-68-3]
15.	50% w/v Polyethylene glycol 4,000	$H(OCH_2CH_2)_nOH$	3,500 - 4,500	[25322-68-3]
16.	50% w/v Polyethylene glycol 6,000	$H(OCH_2CH_2)_nOH$	5,000 - 7,000	[25322-68-3]
17.	50% w/v Polyethylene glycol 8,000	$H(OCH_2CH_2)_nOH$	7,000 - 9,000	[25322-68-3]
18.	50% w/v Polyethylene glycol 10,000	$H(OCH_2CH_2)_nOH$	8,500 - 11,500	[25322-68-3]
19.	30% w/v Polyethylene glycol 20,000	$H(OCH_2CH_2)_nOH$	~ 16,000 - 24,000	[25322-68-3]
20.	100% Polyethylene glycol monomethyl ether 550	$CH_3O(CH_2CH_2O)_nH$	~ 550	[9004-74-4]
21.	50% w/v Polyethylene glycol monomethyl ether 2,000	$CH_3O(CH_2CH_2O)_nH$	~ 2,000	[9004-74-4]
22.	50% w/v Polyethylene glycol monomethyl ether 5,000	$CH_3O(CH_2CH_2O)_nH$	~ 5,000	[9004-74-4]
23.	100% Polypropylene glycol P 400	$(C_3H_6O)_n$	~ 400	[25322-69-4]
24.	50% w/v Polyvinylpyrrolidone K 15	$(C_6H_9NO)_n$	~ 10,000	[9003-39-8]

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