StockOptions™

Bis-Tris Propane Buffer Kit (pH 6.3 - 9.5)

HAMPTON RESEARCH
Solutions for Crystal Growth

User Guide **HR2-103**

StockOptions™ Bis-Tris Propane buffer kit is a preformulated, sterile filtered set of titrated buffer stocks. The StockOptions buffer stock reagents are supplied as 1.0 M stock solutions in 10 milliliter volumes. Each StockOptions Bis-Tris Propane buffer reagent is carefully titrated using Hydrochloric acid. StockOptions Bis-Tris Propane is comprised of 33 unique reagents covering the pH range of 6.3 to 9.5 in 0.1 pH unit increments.

Suggested Use

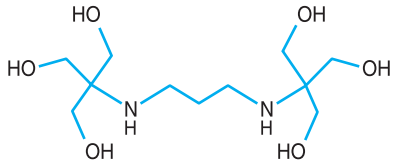
StockOptions Bis-Tris Propane is designed to help researchers improve the speed, accuracy, precision, and quality of the formulation of crystallization screen solutions and crystallization optimization solutions. Researchers can use the individual StockOptions reagents to conveniently formulate custom screen solutions or standard screen solutions from Hampton Research kits such as PEGRx™ 1, PEG/Ion™ and SaltRx™. StockOptions Bis-Tris Propane reagents can also be used to create solutions for the refinement and optimization of preliminary crystallization conditions. Finally, StockOptions Bis-Tris Propane reagents can be used to create accurate, precise, reproducible, high quality solutions for the production of single crystals. Utilizing the reagents in the StockOptions Bis-Tris Propane buffer kit it is possible to formulate and screen 33 unique pH levels.

During crystallization experiments the Bis-Tris Propane buffer system is typically utilized at a 0.1 M final concentration during the screening, optimization, and production of biological macromolecular crystals. It is therefore recommended that one dilute the StockOptions Bis-Tris Propane buffer solution 1:10 to achieve a final concentration of 0.1 M. For example, dilute 1 milliliter of StockOptions Bis-Tris Propane to a final volume of 10 milliliters to achieve a final concentration of 0.1 M BIS-TRIS propane.

Please note the final pH of the solution created using StockOptions may vary based upon what other reagents are added to the StockOptions Bis-Tris Propane buffer.

Specifications

Useful pH Range: 6.3 - 9.5



Buffer Reagent: BIS-TRIS propane

$C_{11}H_{26}N_2O_6$	M_r 282.34	CAS No [64431-96-5]	EC No 264-899-3

Titrated with: Hydrochloric acid

HCl	M_r 36.46	CAS No [7647-01-0]	EC No 231-595-7

Example 1

PEGRx 1 Reagent 12 (1 ml volume in a plate reservoir):

Solution Composition: 0.1 M BIS-TRIS propane pH 9.0, 20% v/v Polyethylene glycol monomethyl ether 550

Suggested Stock Solutions:
1.0 M BIS-TRIS propane pH 9.0 (StockOptions Bis-Tris Propane),
100% Polyethylene glycol monomethyl ether 550 (HR2-611)

1. Pipet 700 µl of sterile filtered deionized water into the plate reservoir.
2. Pipet 100 µl of 1.0 M BIS-TRIS propane pH 9.0 into the plate reservoir.
3. Pipet 200 µl of 50% w/v Polyethylene glycol monomethyl ether 550 into the plate reservoir.
4. Aspirate and dispense the solution ten times or until homogeneous.

Note: Water has been added first to enhance subsequent reagent solubility. Also note that one of the larger volumes has been added last so the pipet is already set at a large volume to enhance mixing during aspiration and dispensing.

Example 2

Make a custom 10 ml screen reagent of:

Solution Composition:
2.0 M Sodium chloride, 0.1 M BIS-TRIS propane pH 7.0

Suggested Stock Solutions: 5.0 M Sodium chloride (HR2-637),
1.0 M BIS-TRIS propane pH 7.0 (StockOptions Bis-Tris Propane)

1. Pipet 5 ml of deionized, sterile filtered water into the tube.
2. Pipet 1 ml of 1.0 M BIS-TRIS propane pH 7.0 into the tube.
3. Pipet 4 ml of 5.0 M Sodium chloride into a sterile screw top tube.
4. Seal the tube, and mix until the solution is homogeneous.

For Best Results

Use Hampton Research Optimize™ together with StockOptions reagents for best results.

Technical Support

Inquiries regarding StockOptions Bis-Tris Propane Buffer Kit 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.

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pH	Buffer	Titrant
6.3	1.0 M BIS-TRIS propane	Hydrochloric acid
6.4	1.0 M BIS-TRIS propane	Hydrochloric acid
6.5	1.0 M BIS-TRIS propane	Hydrochloric acid
6.6	1.0 M BIS-TRIS propane	Hydrochloric acid
6.7	1.0 M BIS-TRIS propane	Hydrochloric acid
6.8	1.0 M BIS-TRIS propane	Hydrochloric acid
6.9	1.0 M BIS-TRIS propane	Hydrochloric acid
7.0	1.0 M BIS-TRIS propane	Hydrochloric acid
7.1	1.0 M BIS-TRIS propane	Hydrochloric acid
7.2	1.0 M BIS-TRIS propane	Hydrochloric acid
7.3	1.0 M BIS-TRIS propane	Hydrochloric acid
7.4	1.0 M BIS-TRIS propane	Hydrochloric acid
7.5	1.0 M BIS-TRIS propane	Hydrochloric acid
7.6	1.0 M BIS-TRIS propane	Hydrochloric acid
7.7	1.0 M BIS-TRIS propane	Hydrochloric acid
7.8	1.0 M BIS-TRIS propane	Hydrochloric acid
7.9	1.0 M BIS-TRIS propane	Hydrochloric acid
8.0	1.0 M BIS-TRIS propane	Hydrochloric acid
8.1	1.0 M BIS-TRIS propane	Hydrochloric acid
8.2	1.0 M BIS-TRIS propane	Hydrochloric acid
8.3	1.0 M BIS-TRIS propane	Hydrochloric acid
8.4	1.0 M BIS-TRIS propane	Hydrochloric acid
8.5	1.0 M BIS-TRIS propane	Hydrochloric acid
8.6	1.0 M BIS-TRIS propane	Hydrochloric acid
8.7	1.0 M BIS-TRIS propane	Hydrochloric acid
8.8	1.0 M BIS-TRIS propane	Hydrochloric acid
8.9	1.0 M BIS-TRIS propane	Hydrochloric acid
9.0	1.0 M BIS-TRIS propane	Hydrochloric acid
9.1	1.0 M BIS-TRIS propane	Hydrochloric acid
9.2	1.0 M BIS-TRIS propane	Hydrochloric acid
9.3	1.0 M BIS-TRIS propane	Hydrochloric acid
9.4	1.0 M BIS-TRIS propane	Hydrochloric acid
9.5	1.0 M BIS-TRIS propane	Hydrochloric acid

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