Molecular Dimensions

MultiXtal HT-96 MD1-66

A great addition to any crystallization lab - a 48 condition sparse matrix Hi-PEG crystallization screen offering multiple uses for crystallization. For soluble and membrane proteins.

MD1- 66 is presented as 2 x (48 x 1 mL conditions).

Features of MultiXtal:

- High PEG concentration screen.
- Suitable for soluble and membrane proteins.
- Ideal for counter-diffusion experiments- compatible with CrystalHarp ™.
- Use in seeding experiments.
- Available as 10 mL, HT or prefilled microplate (FX) format.

Introduction

MultiXtal is designed as a high PEG concentration screen for vapour diffusion as well as for use in counter-diffusion experiments and seeding experiments. Contains higher PEG concentrations than found in traditional standard screens; offering greater flexibility in its usage. A buffering range from pH 5.5 to 8.5 ensures appropriate buffering when setting-up crystallizations from 4 °C to 37 °C.

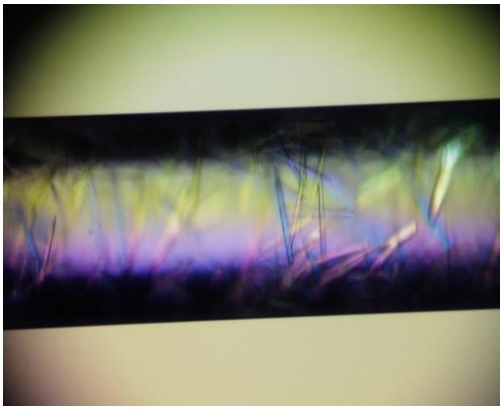
MultiXtal Formulation

MultiXtal reagents are formulated using ultrapure water (>18.0 MΩ) and are sterile-filtered using 0.22 m filters. No preservatives are added.
Sodium phosphate used in this screen is Sodium Phosphate dibasic dihydrate, titrated with HCl.

Final pH may vary from that specified on the datasheet. Molecular Dimensions will be happy to discuss the precise formulation of individual reagents.
Individual reagents and stock solutions for optimization are available from Molecular Dimensions.

Enquiries regarding MultiXtal formulation, interpretation of results or optimization strategies are welcome. Please e-mail, fax or phone your query to Molecular Dimensions.

Contact and product details can be found at www.moleculardimensions.com



Crystals growing inside a capillary.

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Membrane Proteins

Soluble Proteins

User guide for CrystalHarp users only:

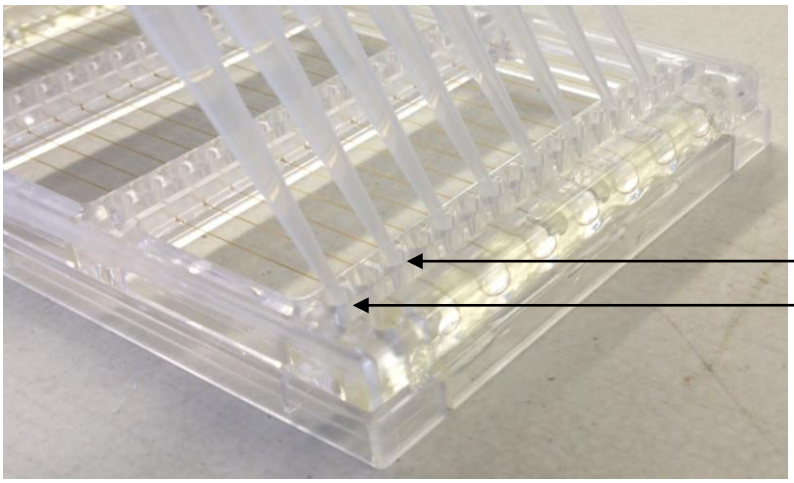
Recommended use of MultiXtal HT if dispensing with an 8-channel pipette

CrystalHarp has 48 individual wells divided into sets of 3 x 16 wells. Due to the spacing of the wells on a CrystalHarp it is not possible to multiple-dispense directly into the first 8 wells with the first 8 conditions (i.e. dispense conditions A1- H1 of a deep-well block into wells 1 -8 of the CrystalHarp). So we suggest that the first row of the MultiXtal HT-96 deep-well block is dispensed into the odd-numbered wells in the CrystalHarp, followed by the second row into the even numbered wells. Repeat for the remaining wells.

Dispense column-by-column

1	2	3	4	5	6	7*	8*	9*	10*	11*	12*
A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12

HT-96 block layout of MultiXtal. Conditions 7-12 are a repeat of conditions 1-6.



Odd-numbered wells, #1, #3 etc.

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Membrane Proteins

Soluble Proteins

MultiXtal HT-96 Wells A1 - D12 MD1-66

* indicates a repeat condition

Tube	Conc	Salt	Conc	Buffer	pH	Conc	Precipitant 1	Conc	Precipitant 2
A1	0.5 M	Sodium chloride	0.1 M	Tris	8.5	30 % v/v	PEG 400		
A2	0.2 M	Lithium sulfate	0.1 M	Tris	8.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
A3	0.2 M	Magnesium chloride hexahydrate	0.1 M	Sodium HEPES	7.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
A4	1.2 M	Ammonium acetate	0.1 M	Sodium HEPES	7.5	25 % w/v	PEG 3350		
A5	0.2 M	Lithium sulfate	0.1 M	Sodium acetate	5.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
A6	0.2 M	Magnesium chloride hexahydrate	0.1 M	Sodium acetate	5.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
A7*	0.5 M	Sodium chloride	0.1 M	Tris	8.5	30 % v/v	PEG 400		
A8*	0.2 M	Lithium sulfate	0.1 M	Tris	8.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
A9*	0.2 M	Magnesium chloride hexahydrate	0.1 M	Sodium HEPES	7.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
A10*	1.2 M	Ammonium acetate	0.1 M	Sodium HEPES	7.5	25 % w/v	PEG 3350		
A11*	0.2 M	Lithium sulfate	0.1 M	Sodium acetate	5.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
A12*	0.2 M	Magnesium chloride hexahydrate	0.1 M	Sodium acetate	5.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
B1	0.2 M	Magnesium chloride hexahydrate	0.1 M	Tris	8.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
B2	0.2 M	Sodium citrate tribasic dihydrate	0.1 M	Tris	8.5	30 % v/v	PEG 400		
B3	0.2 M	Calcium chloride dihydrate	0.1 M	HEPES	7.5	50 % v/v	PEG 400		
B4	0.5 M	Sodium chloride	0.1 M	Sodium HEPES	7.5	25 % w/v	PEG 4000		
B5	0.2 M	Potassium thiocyanate	0.1 M	Sodium acetate	5.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
B6	1.2 M	Ammonium acetate	0.1 M	Bis-Tris	5.5	25 % w/v	PEG 3350		
B7*	0.2 M	Magnesium chloride hexahydrate	0.1 M	Tris	8.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
B8*	0.2 M	Sodium citrate tribasic dihydrate	0.1 M	Tris	8.5	30 % v/v	PEG 400		
B9*	0.2 M	Calcium chloride dihydrate	0.1 M	HEPES	7.5	50 % v/v	PEG 400		
B10*	0.5 M	Sodium chloride	0.1 M	Sodium HEPES	7.5	25 % w/v	PEG 4000		
B11*	0.2 M	Potassium thiocyanate	0.1 M	Sodium acetate	5.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
B12*	1.2 M	Ammonium acetate	0.1 M	Bis-Tris	5.5	25 % w/v	PEG 3350		
C1	0.2 M	Magnesium chloride hexahydrate	0.1 M	Tris	8.5	25 % w/v	PEG 4000		
C2	0.2 M	Magnesium chloride hexahydrate	0.1 M	Tris	8.5	30 % w/v	PEG 8000		
C3	0.5 M	Sodium chloride	0.1 M	Sodium phosphate	7.0	30 % v/v	PEG 300		
C4	0.5 M	Sodium chloride	0.1 M	MOPS	7.0	30 % v/v	PEG 400		
C5	0.2 M	Lithium sulfate	0.1 M	Bis-Tris	5.5	25 % w/v	PEG 3350		
C6	0.2 M	Magnesium chloride hexahydrate	0.1 M	Bis-Tris	5.5	25 % w/v	PEG 3350		
C7*	0.2 M	Magnesium chloride hexahydrate	0.1 M	Tris	8.5	25 % w/v	PEG 4000		
C8*	0.2 M	Magnesium chloride hexahydrate	0.1 M	Tris	8.5	30 % w/v	PEG 8000		
C9*	0.5 M	Sodium chloride	0.1 M	Sodium phosphate	7.0	30 % v/v	PEG 300		
C10*	0.5 M	Sodium chloride	0.1 M	MOPS	7.0	30 % v/v	PEG 400		
C11*	0.2 M	Lithium sulfate	0.1 M	Bis-Tris	5.5	25 % w/v	PEG 3350		
C12*	0.2 M	Magnesium chloride hexahydrate	0.1 M	Bis-Tris	5.5	25 % w/v	PEG 3350		
D1	0.5 M	Sodium chloride	0.1 M	Tris	8.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
D2	0.5 M	Sodium chloride	0.1 M	EPPS	8.0	33 % w/v	PEG 1500		
D3	0.2 M	Magnesium chloride hexahydrate	0.1 M	Sodium HEPES	7.0	15 % w/v	PEG 4000		
D4	0.2 M	Calcium chloride dihydrate	0.1 M	HEPES	7.0	30 % v/v	PEG 400		
D5	0.2 M	Magnesium chloride hexahydrate	0.1 M	Sodium citrate	5.0	15 % w/v	PEG 4000		
D6	1.2 M	Ammonium acetate	0.1 M	Sodium acetate	5.0	20 % w/v	PEG 4000		
D7*	0.5 M	Sodium chloride	0.1 M	Tris	8.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
D8*	0.5 M	Sodium chloride	0.1 M	EPPS	8.0	33 % w/v	PEG 1500		
D9*	0.2 M	Magnesium chloride hexahydrate	0.1 M	Sodium HEPES	7.0	15 % w/v	PEG 4000		
D10*	0.2 M	Calcium chloride dihydrate	0.1 M	HEPES	7.0	30 % v/v	PEG 400		
D11*	0.2 M	Magnesium chloride hexahydrate	0.1 M	Sodium citrate	5.0	15 % w/v	PEG 4000		
D12*	1.2 M	Ammonium acetate	0.1 M	Sodium acetate	5.0	20 % w/v	PEG 4000		

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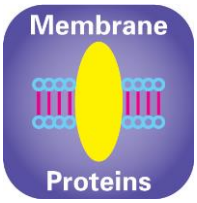

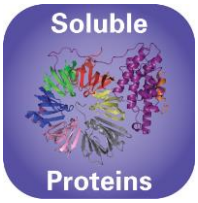

MultiXtal HT-96 Wells E1 – H12 MD1-66

Tube	Conc	Salt	Conc	Buffer	pH	Conc	Precipitant 1	Conc	Precipitant 2
E1	0.2 M	Calcium chloride dihydrate	0.1 M	Tris	8.0	45 % v/v	PEG 400		
E2	0.2 M	Lithium chloride	0.1 M	Tris	8.0	20 % w/v	PEG 8000		
E3	0.5 M	Sodium chloride	0.1 M	HEPES	7.0	22 % v/v	PEG 500 MME		
E4	0.5 M	Sodium chloride	0.1 M	MES	6.5	30 % v/v	PEG 400		
E5	0.2 M	Magnesium chloride hexahydrate	0.1 M	MES	6.0	25 % w/v	PEG 3350		
E6	0.2 M	Magnesium chloride hexahydrate	0.1 M	MES	6.0	20 % w/v	PEG 6000		
E7*	0.2 M	Calcium chloride dihydrate	0.1 M	Tris	8.0	45 % v/v	PEG 400		
E8*	0.2 M	Lithium chloride	0.1 M	Tris	8.0	20 % w/v	PEG 8000		
E9*	0.5 M	Sodium chloride	0.1 M	HEPES	7.0	22 % v/v	PEG 500 MME		
E10*	0.5 M	Sodium chloride	0.1 M	MES	6.5	30 % v/v	PEG 400		
E11*	0.2 M	Magnesium chloride hexahydrate	0.1 M	MES	6.0	25 % w/v	PEG 3350		
E12*	0.2 M	Magnesium chloride hexahydrate	0.1 M	MES	6.0	20 % w/v	PEG 6000		
F1	0.2 M	Magnesium chloride hexahydrate	0.1 M	Tris	8.0	25 % w/v	PEG 8000		
F2	0.6 M	Ammonium sulfate	0.1 M	Tris	7.5	20 % v/v	PEG 400		
F3	0.2 M	Calcium chloride dihydrate	0.1 M	MES	6.5	25 % v/v	PEG 350 MME		
F4	0.2 M	Calcium chloride dihydrate	0.1 M	MES	6.5	30 % v/v	PEG 400		
F5	0.2 M	Calcium chloride dihydrate	0.1 M	MES	6.0	20 % w/v	PEG 6000		
F6	0.5 M	Sodium chloride	0.1 M	MES	6.0	20 % w/v	PEG 6000		
F7*	0.2 M	Magnesium chloride hexahydrate	0.1 M	Tris	8.0	25 % w/v	PEG 8000		
F8*	0.6 M	Ammonium sulfate	0.1 M	Tris	7.5	20 % v/v	PEG 400		
F9*	0.2 M	Calcium chloride dihydrate	0.1 M	MES	6.5	25 % v/v	PEG 350 MME		
F10*	0.2 M	Calcium chloride dihydrate	0.1 M	MES	6.5	30 % v/v	PEG 400		
F11*	0.2 M	Calcium chloride dihydrate	0.1 M	MES	6.0	20 % w/v	PEG 6000		
F12*	0.5 M	Sodium chloride	0.1 M	MES	6.0	20 % w/v	PEG 6000		
G1	0.2 M	Magnesium chloride hexahydrate	0.1 M	Sodium HEPES	7.5	30 % v/v	PEG 400		
G2	0.2 M	Lithium sulfate	0.1 M	Tris	7.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
G3	0.2 M	Magnesium chloride hexahydrate	0.1 M	MES	6.5	25 % w/v	PEG 4000		
G4	0.6 M	Ammonium sulfate	0.1 M	MES	6.5	10 % w/v	PEG 8000		
G5	1.2 M	Ammonium chloride	0.1 M	MES	6.0	20 % w/v	PEG 6000		
G6	0.2 M	Lithium chloride	0.1 M	MES	6.0	20 % w/v	PEG 6000		
G7*	0.2 M	Magnesium chloride hexahydrate	0.1 M	Sodium HEPES	7.5	30 % v/v	PEG 400		
G8*	0.2 M	Lithium sulfate	0.1 M	Tris	7.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
G9*	0.2 M	Magnesium chloride hexahydrate	0.1 M	MES	6.5	25 % w/v	PEG 4000		
G10*	0.6 M	Ammonium sulfate	0.1 M	MES	6.5	10 % w/v	PEG 8000		
G11*	1.2 M	Ammonium chloride	0.1 M	MES	6.0	20 % w/v	PEG 6000		
G12*	0.2 M	Lithium chloride	0.1 M	MES	6.0	20 % w/v	PEG 6000		
H1	0.2 M	Magnesium chloride hexahydrate	0.1 M	Tris	7.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
H2	0.2 M	Potassium thiocyanate	0.1 M	Tris	7.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
H3	0.2 M	Lithium sulfate	0.1 M	ADA	6.5	30 % v/v	PEG 400		
H4	0.5 M	Sodium chloride	0.1 M	Sodium citrate	5.5	30 % v/v	PEG 400		
H5	0.6 M	Ammonium sulfate	0.1 M	Sodium HEPES	7.5	15 % v/v	PEG 400		
H6	1.2 M	Ammonium acetate	0.1 M	Tris	8.5	15 % w/v	PEG 4000		
H7*	0.2 M	Magnesium chloride hexahydrate	0.1 M	Tris	7.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
H8*	0.2 M	Potassium thiocyanate	0.1 M	Tris	7.5	10 % w/v	PEG 1000	10 % w/v	PEG 8000
H9*	0.2 M	Lithium sulfate	0.1 M	ADA	6.5	30 % v/v	PEG 400		
H10*	0.5 M	Sodium chloride	0.1 M	Sodium citrate	5.5	30 % v/v	PEG 400		
H11*	0.6 M	Ammonium sulfate	0.1 M	Sodium HEPES	7.5	15 % v/v	PEG 400		
H12*	1.2 M	Ammonium acetate	0.1 M	Tris	8.5	15 % w/v	PEG 4000		

Abbreviations:
ADA: N-(2-Acetamido)iminodiacetic Acid, **Bis-Tris:** Bis-(2-hydroxyethyl)imino-tris(hydroxymethyl)methane, **EPPS:** 4-(2-hydroxyethyl)piperazine-1-propanesulfonic acid, **HEPES:** 2-(4-(2-Hydroxyethyl)-1-piperazinyl)ethanesulfonic Acid, **Sodium HEPES:** 2-(4-(2-Hydroxyethyl)-1-piperazinyl)ethanesulfonic Acid Sodium Salt, **MES:** 2-(N-morpholino)ethanesulfonic acid, **MOPS:** 3-{N-morpholino] propanesulfonic acid, **MPD**: 2-methyl, 2,4-pentanediol, **PEG**: Poly Ethylene Glycol, **Tris:** 2-Amino-2-

Manufacturer's safety data sheets are available from our website or by scanning the QR code here:

Re-Ordering details:

Catalogue Description		Catalogue Code
MultiXtal	48 x 10 mL	MD1-65
MultiXtal HT-96	2 x (48 x 1 mL)	MD1-66
MultiXtal FX-96 pre-filled	2 x (48 x 100 µL)	MD1-67
Single Reagents		
MultiXtal single reagents	100 mL	MDSR-65-tube number
MultiXtal HT-96 single reagents	100 mL	MDSR-66-tube number

For MultiXtal stock reagents visit our Optimization page on our website.