



STRUCTURAL BIOLOGY
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Supporting information for article:

The MORPHEUS II protein crystallization screen

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Table S1 MORPHEUS II precipitant mixes.

Wells	Prec.	Conc	Unit	Cryo	Conc.	Unit	Surfactant	Conc.	Unit
Col 1, 5 and 9	PEG 3K	30	% w/v	1,2,4-Butanetriol	40	% v/v	NDSB 256	2	% w/v
Col 2, 6 and 10	PEG 4K	25	% w/v	1,2,6-Hexanetriol	40	% v/v			
Col 3, 7 and 11	PEG 8K	20	% w/v	1,5-Pentanediol	40	% v/v			
Col 4, 8 and 12	PEG 20K	10	% w/v	1,1,1-Tris(hydroxymethyl)propane	50	% w/v	NDSB 195	2	% w/v

Table S2 MORPHEUS II buffer systems.

Wells	Acid name	Conc	Unit	pH	Base name	Conc	Unit	pH	ratio (approx.)	final pH
Col 1-4	MOPSO	1	M	3.3	Bis-tris	1	M	12.0	60/40	6.5
Col 5-8	BES	1	M	4.16	Triethylamine (TEA)	1	M	11.2	50/50	7.5
Col 9-12	GlyGly	1	M	5.8	AMPD	1	M	11.8	66/33	8.5

Table S3 Crystallisation results

A condition was considered as succesful when at least one of the triplicate exhibited crystals (results were all repeated at least twice apart from rare exceptions). The yield is calculated as follow: $\text{Total} \div (96 \times 8) \times 100$.

JCSG+									MORPHEUS I									MORPHEUS II								
Well	Con.	Pol.	E2H	Bar	CCD	UPL	NEF	HIV	Well	Con.	Pol.	E2H	Bar	CCD	UPL	NEF	HIV	Well	Con.	Pol.	E2H	Bar	CCD	UPL	NEF	HIV
A1									A1	x	x							A1					x			x
A2	x			x					A2								x		A2	x				x		x
A3	x					x			A3										A3	x				x		x
A4									A4		x								A4					x		
A5									A5		x								A5	x						x
A6		x						x	A6				x	x					A6	x					x	x
A7	x								A7										A7	x						x
A8	x					x		x	A8		x								A8							
A9	x			x				x	A9		x								A9						x	
A10	x					x			A10						x				A10	x						x
A11									A11						x		x		A11	x		x				x
A12	x			x	x	x		x	A12		x								A12			x				
B1									B1	x	x								B1	x						
B2				x	x	x			B2	x								x	B2	x			x			
B3									B3										B3	x			x			
B4						x		x	B4		x								B4							
B5						x			B5		x			x					B5	x						
B6									B6										B6	x						
B7		x						x	B7					x	x				B7	x			x			
B8	x		x						B8		x			x					B8							
B9	x	x					x		B9		x							x	B9	x				x		x
B10									B10										B10							x
B11									B11						x				B11							
B12				x					B12		x			x					B12							
C1		x							C1	x	x							x	C1	x						
C2									C2						x				C2	x						x
C3	x			x				x	C3									x	C3	x			x			x
C4	x							x	C4		x		x	x					C4				x			
C5									C5		x								C5	x						x
C6									C6										C6							x
C7									C7										C7						x	x
C8									C8		x		x	x					C8							
C9					x				C9										C9	x			x	x		x
C10									C10										C10							x
C11									C11										C11							x
C12		x						x	C12		x								C12							
D1									D1	x	x								D1	x						
D2								x	D2	x									D2	x			x			
D3									D3	x									D3	x			x			
D4									D4	x	x								D4				x			
D5									D5		x			x					D5						x	x
D6	x								D6										D6							
D7									D7										D7							
D8									D8		x								D8							
D9									D9										D9	x						x
D10		x							D10								x	x	D10					x		x
D11									D11						x	x	x		D11						x	
D12	x								D12		x				x				D12							

JCSG+									MORPHEUS I									MORPHEUS II								
Well	Con.	Pol.	E2H	Bar	CCD	UPL	NEF	HIV	Well	Con.	Pol.	E2H	Bar	CCD	UPL	NEF	HIV	Well	Con.	Pol.	E2H	Bar	CCD	UPL	NEF	HIV
E1									E1	x	x							E1		x						
E2							x		E2	x							x	E2		x						
E3									E3	x							x	E3		x						
E4					x		x		E4	x	x							E4								
E5									E5		x							E5	x				x			x
E6	x								E6									E6								
E7									E7								x	E7								
E8									E8		x							E8								
E9							x		E9		x							E9	x				x	x		x
E10									E10								x	E10					x			x
E11				x					E11						x		x	E11					x		x	
E12								x	E12		x			x				E12								
F1									F1		x							F1	x							
F2									F2									F2								x
F3									F3									F3					x			
F4									F4		x							F4					x			
F5									F5		x							F5	x							x
F6									F6								x	F6								
F7							x		F7									F7								x
F8									F8		x							F8								
F9									F9									F9	x				x	x		x
F10									F10								x	F10					x			x
F11									F11						x		x	F11							x	
F12									F12		x			x				F12								
G1									G1	x	x							G1	x							x
G2					x		x		G2									G2	x							x
G3									G3									G3	x						x	x
G4								x	G4	x	x							G4				x				
G5	x								G5		x							G5	x							
G6	x						x		G6									G6					x			
G7	x							x	G7									G7				x			x	x
G8	x				x		x		G8		x		x					G8							x	x
G9								x	G9		x							G9							x	x
G10		x						x	G10								x	G10					x			x
G11		x							G11						x		x	G11					x		x	x
G12									G12		x		x					G12								
H1									H1	x	x							H1		x						
H2									H2	x								H2								
H3		x							H3									H3							x	
H4									H4	x	x							H4				x				
H5	x								H5	x	x					x		H5				x		x		
H6	x			x				x	H6									H6				x				x
H7		x							H7									H7								x
H8		x						x	H8		x							H8								
H9		x							H9		x							H9				x				
H10	x	x						x	H10					x				H10								x
H11	x	x							H11					x	x			H11					x			
H12	x								H12		x			x				H12								
Sum	23	14	1	8	10	7	7	17		18	45	0	5	15	9	6	34		32	4	2	2	28	9	13	37
						Total		87							Total		132							Total		127
						Yield (%)		11.3							Yield (%)		17.2							Yield (%)		16.5