

Precipitant Screening™ Primary 64 crystallization screen - technical sheet

Formulations: (Patent Pending)

	<u>Precipitant #1</u>	<u>Precipitant #2</u>	<u>Additive</u>	<u>Buffer</u>	
1	2M ammonium sulfate	2%(v/v) PEG 400		0.1M acetate pH 5.5	1
2	2M ammonium sulfate	10%(v/v) glycerol	0.1M MgSO4	0.1M imidazole pH 6.5	2
3	2M ammonium sulfate	1%(v/v) MPD		0.1M HEPES pH 7.5	3
4	2M ammonium sulfate	5%(v/v) PEG 400	0.1M MgSO4	0.1M Tris base pH 8.5	4
5	3.9M NaCl	2%(v/v) PEG 400	0.1M MgCl2	0.1M acetate pH 5.5	5
6	3M NaCl	5%(v/v) MPD	0.1M CaCl2	0.1M imidazole pH 6.5	6
7	4M NaCl	5%(v/v) isopropanol		0.1M HEPES pH 7.5	7
8	5%(v/v) isopropanol			2.5M K2 H phosphate/Na H2 phosphate pH 5.5	8
9	2%(v/v) PEG 400			2M K2 H phosphate/Na H2 phosphate pH 6.5	9
10	20%(v/v) glycerol			2.5M K2 H phosphate/Na H2 phosphate pH 7.5	10
11	8%(v/v) MPD			1M K2 H phosphate/Na H2 phosphate pH 8.5	11
12	1%(v/v) MPD			2M (NH4)3 citrate/citric acid pH 4.5	12
13	5%(v/v) isopropanol			2M (NH4)3 citrate/citric acid pH 6.5	13
14	5%(v/v) PEG 400			2M (NH4)3 citrate/citric acid pH 7.5	14
15	2M lithium sulfate	5%(v/v) isopropanol	0.1M MgSO4	0.1M acetate pH 4.5	15
16	2M lithium sulfate	5%(v/v) PEG 400	0.1M MgSO4	0.1M acetate pH 5.5	16
17	2M lithium sulfate	8%(v/v) MPD		0.1M imidazole pH 6.5	17
18	2M lithium sulfate	2%(v/v) PEG 400		0.1M Tris base pH 8.5	18
19	1M lithium sulfate	15%(v/v) MPD	0.1M MgSO4	0.1M acetate pH 4.5	19
20	25%(v/v) MPD			0.75M (NH4)3 citrate/citric acid pH 5.5	20
21	1.5M ammonium sulfate	12%(v/v) isopropanol		0.1M imidazole pH 6.5	21
22	1.3M NaCl	30%(v/v) isopropanol	0.1M CaCl2	0.1M imidazole pH 6.5	22
23	4M NaCl	10%(v/v) PEG 400		0.1M HEPES pH 7.5	23
24	20%(v/v) PEG 400			0.8M K2 H phosphate/Na H2 phosphate pH 7.5	24
25	15%(v/v) isopropanol			1M (NH4)3 citrate/ammonium hydroxide pH 8.5	25
26	2M sodium formate	15%(v/v) isopropanol	2.5%(w/v) PEG 3350	0.1M Tris base pH 8.5	26
27	30%(v/v) MPD	25%(w/v) PEG 1500		0.1M acetate pH 4.5	27
28	30%(v/v) MPD	15%(w/v) PEG 8000	0.1M CaCl2	0.1M acetate pH 5.5	28
29	30%(v/v) MPD	10%(w/v) PEG 3350	.2M ammonium sulfate	0.1M imidazole pH 6.5	29
30	30%(v/v) MPD	4%(w/v) PEG 1500		0.1M HEPES pH 7.5	30
31	30%(v/v) MPD	8%(w/v) PEG 8000	.5M NaCl	0.1M Tris base pH 8.5	31
32	30%(v/v) isopropanol	4%(w/v) PEG 3350	0.1M CaCl2	0.1M acetate pH 4.5	32
33	30%(v/v) isopropanol	10%(w/v) PEG 1500	0.2M lithium sulfate	0.1M acetate pH 5.5	33
34	40%(v/v) isopropanol	15%(w/v) PEG 8000		0.1M imidazole pH 6.5	34
35	20%(v/v) isopropanol	15%(w/v) PEG 3350		0.2M (NH4)3 citrate/citric acid pH 7.5	35
36	30%(v/v) isopropanol	30%(w/v) PEG 3350		0.1M Tris base pH 8.5	36
37	40%(v/v) PEG 400	20%(w/v) PEG 8000		0.1M acetate pH 4.5	37
38	40%(v/v) PEG 400	5%(w/v) PEG 3350		0.1M acetate pH 5.5	38
39	40%(v/v) PEG 400	15%(w/v) PEG 1000		0.15M K2 H phosphate/Na H2 phosphate pH 6.5	39
40	40%(v/v) PEG 400	8%(w/v) PEG 8000		0.1M HEPES pH 7.5	40
41	25%(v/v) PEG 400	20%(w/v) PEG 3350	0.1M MgCl2	0.1M Tris base pH 8.5	41
42	30%(w/v) PEG 1500	3%(v/v) MPD	0.2M MgSO4	0.1M acetate pH 5.5	42
43	30%(w/v) PEG 1500	10%(v/v) isopropanol	0.1M CaCl2	0.1M imidazole pH 6.5	43
44	30%(w/v) PEG 1500	20%(v/v) PEG 400		0.1M HEPES pH 7.5	44
45	30%(w/v) PEG 1500	8%(v/v) MPD		0.1M Tris base pH 8.5	45
46	25%(w/v) PEG 3350	15%(v/v) isopropanol		0.2M (NH4)3 citrate/citric acid pH 4.5	46
47	25%(w/v) PEG 3350	5%(v/v) PEG 400		0.1M acetate pH 5.5	47
48	25%(w/v) PEG 3350	15%(v/v) MPD	0.2M lithium sulfate	0.1M imidazole pH 6.5	48
49	25%(w/v) PEG 3350	4%(v/v) isopropanol	0.1M CaCl2	0.1M HEPES pH 7.5	49
50	20%(w/v) PEG 8000	10%(v/v) PEG 400	0.5M NaCl	0.1M acetate pH 5.5	50
51	20%(w/v) PEG 8000	3%(v/v) MPD		0.1M imidazole pH 6.5	51
52	20%(w/v) PEG 8000	10%(v/v) isopropanol	0.2M ammonium sulfate	0.1M HEPES pH 7.5	52
53	20%(w/v) PEG 8000	20%(v/v) PEG 400	0.1M MgCl2	0.1M Tris base pH 8.5	53
54	2.1M sodium formate	25%(w/v) PEG 3350	0.1M CaCl2	0.1M acetate pH 4.5	54
55	.75M ammonium sulfate	7.5%(w/v) PEG 3350	5%(v/v) isopropanol	0.1M acetate pH 4.5	55
56	1%(w/v) PEG 4000			1M (NH4)3 citrate/citric acid pH 5.5	56
57	2.5M NaCl	12%(w/v) PEG 1500	1.500 %(v/v) MPD	0.1M acetate pH 5.5	57
58	2M NaCl	20%(w/v) PEG 3350	0.1M MgCl2	0.1M imidazole pH 6.5	58
59	3M sodium formate	4%(w/v) PEG 8000		0.1M imidazole pH 6.5	59
60	0.5%(w/v) PEG 4000			1M K2 H phosphate/Na H2 phosphate pH 7.5	60
61	10%(w/v) PEG 3350			1.4M K2 H phosphate/Na H2 phosphate pH 7.5	61
62	2%(w/v) PEG 8000			0.8M (NH4)3 citrate/ammonium hydroxide pH 8.5	62
63	2M NaCl	5%(w/v) PEG 4000		0.1M Tris base pH 8.5	63
64	15%(w/v) PEG 8000			0.5M (NH4)3 citrate/ammonium hydroxide pH 8.5	64

All formulations are made with ultrapure ASTM Type I water and sterile-filtered stock solutions. Store at 4-25 °C.

Precipitant Synergy™ Expanded with Precipitants @ 67% of Primary 64 - technical sheet

Formulations: (Patent Pending)

	<u>Precipitant #1</u>	<u>Precipitant #2</u>	<u>Salt</u>	<u>Buffer</u>	
1	1.34M ammonium sulfate	1.34%(v/v) PEG 400		0.1M acetate pH 5.5	1
2	1.34M ammonium sulfate	6.7%(v/v) glycerol	0.1M MgSO4	0.1M imidazole pH 6.5	2
3	1.34M ammonium sulfate	0.67%(v/v) MPD		0.1M HEPES pH 7.5	3
4	1.34M ammonium sulfate	3.35%(v/v) PEG 400	0.1M MgSO4	0.1M Tris base pH 8.5	4
5	2.613M NaCl	1.34%(v/v) PEG 400	0.1M MgCl2	0.1M acetate pH 5.5	5
6	2.01M NaCl	3.35%(v/v) MPD	0.1M CaCl2	0.1M imidazole pH 6.5	6
7	2.68M NaCl	3.35%(v/v) isopropanol		0.1M HEPES pH 7.5	7
8	3.35%(v/v) isopropanol			1.675M K2 H phosphate/Na H2 phosphate pH 5.5	8
9	1.34%(v/v) PEG 400			1.34M K2 H phosphate/Na H2 phosphate pH 6.5	9
10	13.4%(v/v) glycerol			1.675M K2 H phosphate/Na H2 phosphate pH 7.5	10
11	5.36%(v/v) MPD			0.67M K2 H phosphate/Na H2 phosphate pH 8.5	11
12	0.67%(v/v) MPD			1.34M (NH4)3 citrate/citric acid pH 4.5	12
13	3.35%(v/v) isopropanol			1.34M (NH4)3 citrate/citric acid pH 6.5	13
14	3.35%(v/v) PEG 400			1.34M (NH4)3 citrate/citric acid pH 7.5	14
15	1.34M lithium sulfate	3.35%(v/v) isopropanol	0.1M MgSO4	0.1M acetate pH 4.5	15
16	1.34M lithium sulfate	3.35%(v/v) PEG 400	0.1M MgSO4	0.1M acetate pH 5.5	16
17	1.34M lithium sulfate	5.36%(v/v) MPD		0.1M imidazole pH 6.5	17
18	1.34M lithium sulfate	1.34%(v/v) PEG 400		0.1M Tris base pH 8.5	18
19	0.67M lithium sulfate	10.05%(v/v) MPD	0.1M MgSO4	0.1M acetate pH 4.5	19
20	16.75%(v/v) MPD			0.503M (NH4)3 citrate/citric acid pH 5.5	20
21	1.005M ammonium sulfate	8.04%(v/v) isopropanol		0.1M imidazole pH 6.5	21
22	0.871M NaCl	20.1%(v/v) isopropanol	0.1M CaCl2	0.1M imidazole pH 6.5	22
23	2.68M NaCl	6.7%(v/v) PEG 400		0.1M HEPES pH 7.5	23
24	13.4%(v/v) PEG 400			0.536M K2 H phosphate/Na H2 phosphate pH 7.5	24
25	10.05%(v/v) isopropanol			0.67M (NH4)3 citrate/ammonium hydroxide pH 8.5	25
26	1.34M sodium formate	10.05%(v/v) isopropanol	1.675%(w/v) PEG 3350	0.1M Tris base pH 8.5	26
27	20.1%(v/v) MPD	16.75%(w/v) PEG 1500		0.1M acetate pH 4.5	27
28	20.1%(v/v) MPD	10.05%(w/v) PEG 8000	0.1M CaCl2	0.1M acetate pH 5.5	28
29	20.1%(v/v) MPD	6.7%(w/v) PEG 3350	0.2M ammonium sulfate	0.1M imidazole pH 6.5	29
30	20.1%(v/v) MPD	2.68%(w/v) PEG 1500		0.1M HEPES pH 7.5	30
31	20.1%(v/v) MPD	5.36%(w/v) PEG 8000	0.5M NaCl	0.1M Tris base pH 8.5	31
32	20.1%(v/v) isopropanol	2.68%(w/v) PEG 3350	0.1M CaCl2	0.1M acetate pH 4.5	32
33	20.1%(v/v) isopropanol	6.7%(w/v) PEG 1500	0.2M lithium sulfate	0.1M acetate pH 5.5	33
34	26.8%(v/v) isopropanol	10.05%(w/v) PEG 8000		0.1M imidazole pH 6.5	34
35	13.4%(v/v) isopropanol	10.05%(w/v) PEG 3350		0.2M (NH4)3 citrate/citric acid pH 7.5	35
36	20.1%(v/v) isopropanol	20.1%(w/v) PEG 3350		0.1M Tris base pH 8.5	36
37	26.8%(v/v) PEG 400	13.4%(w/v) PEG 8000		0.1M acetate pH 4.5	37
38	26.8%(v/v) PEG 400	3.35%(w/v) PEG 3350		0.1M acetate pH 5.5	38
39	26.8%(v/v) PEG 400	10.05%(w/v) PEG 1000		0.15M K2 H phosphate/Na H2 phosphate pH 6.5	39
40	26.8%(v/v) PEG 400	5.36%(w/v) PEG 8000		0.1M HEPES pH 7.5	40
41	16.75%(v/v) PEG 400	13.4%(w/v) PEG 3350	0.1M MgCl2	0.1M Tris base pH 8.5	41
42	20.1%(w/v) PEG 1500	2.01%(v/v) MPD	0.2M MgSO4	0.1M acetate pH 5.5	42
43	20.1%(w/v) PEG 1500	6.7%(v/v) isopropanol	0.1M CaCl2	0.1M imidazole pH 6.5	43
44	20.1%(w/v) PEG 1500	13.4%(v/v) PEG 400		0.1M HEPES pH 7.5	44
45	20.1%(w/v) PEG 1500	5.36%(v/v) MPD		0.1M Tris base pH 8.5	45
46	16.75%(w/v) PEG 3350	10.05%(v/v) isopropanol		0.2M (NH4)3 citrate/citric acid pH 4.5	46
47	16.75%(w/v) PEG 3350	3.35%(v/v) PEG 400		0.1M acetate pH 5.5	47
48	16.75%(w/v) PEG 3350	10.05%(v/v) MPD	0.2M lithium sulfate	0.1M imidazole pH 6.5	48
49	16.75%(w/v) PEG 3350	2.68%(v/v) isopropanol	0.1M CaCl2	0.1M HEPES pH 7.5	49
50	13.4%(w/v) PEG 8000	6.7%(v/v) PEG 400	0.5M NaCl	0.1M acetate pH 5.5	50
51	13.4%(w/v) PEG 8000	2.01%(v/v) MPD		0.1M imidazole pH 6.5	51
52	13.4%(w/v) PEG 8000	6.7%(v/v) isopropanol	0.2M ammonium sulfate	0.1M HEPES pH 7.5	52
53	13.4%(w/v) PEG 8000	13.4%(v/v) PEG 400	0.1M MgCl2	0.1M Tris base pH 8.5	53
54	1.407M sodium formate	16.75%(w/v) PEG 3350	0.1M CaCl2	0.1M acetate pH 4.5	54
55	0.5025M ammonium sulfate	5.025%(w/v) PEG 3350	3.35%(v/v) isopropanol	0.1M acetate pH 4.5	55
56	0.67%(w/v) PEG 4000			0.67M (NH4)3 citrate/citric acid pH 5.5	56
57	1.675M NaCl	8.04%(w/v) PEG 1500	1.005%(v/v) MPD	0.1M acetate pH 5.5	57
58	1.34M NaCl	13.4%(w/v) PEG 3350	0.1M MgCl2	0.1M imidazole pH 6.5	58
59	2.01M sodium formate	2.68%(w/v) PEG 8000		0.1M imidazole pH 6.5	59
60	0.34%(w/v) PEG 4000			0.67M K2 H phosphate/Na H2 phosphate pH 7.5	60
61	6.7%(w/v) PEG 3350			0.938M K2 H phosphate/Na H2 phosphate pH 7.5	61
62	1.34%(w/v) PEG 8000			0.536M (NH4)3 citrate/ammonium hydroxide pH 8.5	62
63	1.34M NaCl	3.35%(w/v) PEG 4000		0.1M Tris base pH 8.5	63
64	10.05%(w/v) PEG 8000			0.335M (NH4)3 citrate/ammonium hydroxide pH 8.5	64

All formulations are made with ultrapure ASTM Type I water and sterile-filtered stock solutions. Store at 4-25 °C.

Precipitant Synergy™ Expanded with Precipitants @ 33% of Primary 64 - technical sheet

Formulations: (Patent Pending)

	Precipitant #1	Precipitant #2	Salt	Buffer	
1	0.66M ammonium sulfate	0.66%(v/v) PEG 400		0.1M acetate pH 5.5	1
2	0.66M ammonium sulfate	3.3%(v/v) glycerol	0.1M MgSO4	0.1M imidazole pH 6.5	2
3	0.66M ammonium sulfate	0.33%(v/v) MPD		0.1M HEPES pH 7.5	3
4	0.66M ammonium sulfate	1.65%(v/v) PEG 400	0.1M MgSO4	0.1M Tris base pH 8.5	4
5	1.287M NaCl	0.66%(v/v) PEG 400	0.1M MgCl2	0.1M acetate pH 5.5	5
6	0.99M NaCl	1.65%(v/v) MPD	0.1M CaCl2	0.1M imidazole pH 6.5	6
7	1.32M NaCl	1.65%(v/v) isopropanol		0.1M HEPES pH 7.5	7
8	1.65%(v/v) isopropanol			0.825M K2 H phosphate/Na H2 phosphate pH 5.5	8
9	0.66%(v/v) PEG 400			0.66M K2 H phosphate/Na H2 phosphate pH 6.5	9
10	6.6%(v/v) glycerol			0.825M K2 H phosphate/Na H2 phosphate pH 7.5	10
11	2.64%(v/v) MPD			0.33M K2 H phosphate/Na H2 phosphate pH 8.5	11
12	0.33%(v/v) MPD			0.66M (NH4)3 citrate/citric acid pH 4.5	12
13	1.65%(v/v) isopropanol			0.66M (NH4)3 citrate/citric acid pH 6.5	13
14	1.65%(v/v) PEG 400			0.66M (NH4)3 citrate/citric acid pH 7.5	14
15	0.66M lithium sulfate	1.65%(v/v) isopropanol	0.1M MgSO4	0.1M acetate pH 4.5	15
16	0.66M lithium sulfate	1.65%(v/v) PEG 400	0.1M MgSO4	0.1M acetate pH 5.5	16
17	0.66M lithium sulfate	2.64%(v/v) MPD		0.1M imidazole pH 6.5	17
18	0.66M lithium sulfate	0.66%(v/v) PEG 400		0.1M Tris base pH 8.5	18
19	0.33M lithium sulfate	4.95%(v/v) MPD	0.1M MgSO4	0.1M acetate pH 4.5	19
20	8.25%(v/v) MPD			0.2475M (NH4)3 citrate/citric acid pH 5.5	20
21	.495M ammonium sulfate	3.96%(v/v) isopropanol		0.1M imidazole pH 6.5	21
22	0.429M NaCl	9.9%(v/v) isopropanol	0.1M CaCl2	0.1M imidazole pH 6.5	22
23	1.32M NaCl	3.3%(v/v) PEG 400		0.1M HEPES pH 7.5	23
24	6.6%(v/v) PEG 400			0.264M K2 H phosphate/Na H2 phosphate pH 7.5	24
25	4.95%(v/v) isopropanol			0.33M (NH4)3 citrate/ammonium hydroxide pH 8.5	25
26	0.66M sodium formate	4.95%(v/v) isopropanol	0.825%(w/v) PEG 3350	0.1M Tris base pH 8.5	26
27	9.9%(v/v) MPD	8.25%(w/v) PEG 1500		0.1M acetate pH 4.5	27
28	9.9%(v/v) MPD	4.95%(w/v) PEG 8000	0.1M CaCl2	0.1M acetate pH 5.5	28
29	9.9%(v/v) MPD	3.3%(w/v) PEG 3350	0.2M ammonium sulfate	0.1M imidazole pH 6.5	29
30	9.9%(v/v) MPD	1.32%(w/v) PEG 1500		0.1M HEPES pH 7.5	30
31	9.9%(v/v) MPD	2.64%(w/v) PEG 8000	0.5M NaCl	0.1M Tris base pH 8.5	31
32	9.9%(v/v) isopropanol	1.32%(w/v) PEG 3350	0.1M CaCl2	0.1M acetate pH 4.5	32
33	9.9%(v/v) isopropanol	3.3%(w/v) PEG 1500	0.2M lithium sulfate	0.1M acetate pH 5.5	33
34	13.2%(v/v) isopropanol	4.95%(w/v) PEG 8000		0.1M imidazole pH 6.5	34
35	6.6%(v/v) isopropanol	4.95%(w/v) PEG 3350		0.2M (NH4)3 citrate/citric acid pH 7.5	35
36	9.9%(v/v) isopropanol	9.9%(w/v) PEG 3350		0.1M Tris base pH 8.5	36
37	13.2%(v/v) PEG 400	6.6%(w/v) PEG 8000		0.1M acetate pH 4.5	37
38	13.2%(v/v) PEG 400	1.65%(w/v) PEG 3350		0.1M acetate pH 5.5	38
39	13.2%(v/v) PEG 400	4.95%(w/v) PEG 1000		0.15M K2 H phosphate/Na H2 phosphate pH 6.5	39
40	13.2%(v/v) PEG 400	2.64%(w/v) PEG 8000		0.1M HEPES pH 7.5	40
41	8.25%(v/v) PEG 400	6.6%(w/v) PEG 3350	0.1M MgCl2	0.1M Tris base pH 8.5	41
42	9.9%(w/v) PEG 1500	0.99%(v/v) MPD	0.2M MgSO4	0.1M acetate pH 5.5	42
43	9.9%(w/v) PEG 1500	3.3%(v/v) isopropanol	0.1M CaCl2	0.1M imidazole pH 6.5	43
44	9.9%(w/v) PEG 1500	6.6%(v/v) PEG 400		0.1M HEPES pH 7.5	44
45	9.9%(w/v) PEG 1500	2.64%(v/v) MPD		0.1M Tris base pH 8.5	45
46	8.25%(w/v) PEG 3350	4.95%(v/v) isopropanol		0.2M (NH4)3 citrate/citric acid pH 4.5	46
47	8.25%(w/v) PEG 3350	1.65%(v/v) PEG 400		0.1M acetate pH 5.5	47
48	8.25%(w/v) PEG 3350	4.95%(v/v) MPD	0.2M lithium sulfate	0.1M imidazole pH 6.5	48
49	8.25%(w/v) PEG 3350	1.32%(v/v) isopropanol	0.1M CaCl2	0.1M HEPES pH 7.5	49
50	6.6%(w/v) PEG 8000	3.3%(v/v) PEG 400	0.5M NaCl	0.1M acetate pH 5.5	50
51	6.6%(w/v) PEG 8000	0.99%(v/v) MPD		0.1M imidazole pH 6.5	51
52	6.6%(w/v) PEG 8000	3.3%(v/v) isopropanol	0.2M ammonium sulfate	0.1M HEPES pH 7.5	52
53	6.6%(w/v) PEG 8000	6.6%(v/v) PEG 400	0.1M MgCl2	0.1M Tris base pH 8.5	53
54	0.693M sodium formate	8.25%(w/v) PEG 3350	0.1M CaCl2	0.1M acetate pH 4.5	54
55	0.2475M ammonium sulfate	2.48 % (w/v) PEG 3350	1.65%(v/v) isopropanol	0.1M acetate pH 4.5	55
56	0.33%(w/v) PEG 4000			0.33M (NH4)3 citrate/citric acid pH 5.5	56
57	0.825M NaCl	3.96%(w/v) PEG 1500	0.495%(v/v) MPD	0.1M acetate pH 5.5	57
58	0.66M NaCl	6.6%(w/v) PEG 3350	0.1M MgCl2	0.1M imidazole pH 6.5	58
59	0.99M sodium formate	1.32%(w/v) PEG 8000		0.1M imidazole pH 6.5	59
60	0.17%(w/v) PEG 4000			0.33M K2 H phosphate/Na H2 phosphate pH 7.5	60
61	3.3%(w/v) PEG 3350			0.462M K2 H phosphate/Na H2 phosphate pH 7.5	61
62	0.66%(w/v) PEG 8000			0.264M (NH4)3 citrate/ammonium hydroxide pH 8.5	62
63	0.66M NaCl	1.65%(w/v) PEG 4000		0.1M Tris base pH 8.5	63
64	4.95%(w/v) PEG 8000			0.165M (NH4)3 citrate/ammonium hydroxide pH 8.5	64

All formulations are made with ultrapure ASTM Type I water and sterile-filtered stock solutions. Store at 4-25 °C.