OptiSol™

Protein Solubility Screening Kit

Quick Start Guide

Soluble BIOTECH
A Predictive Oncology Company

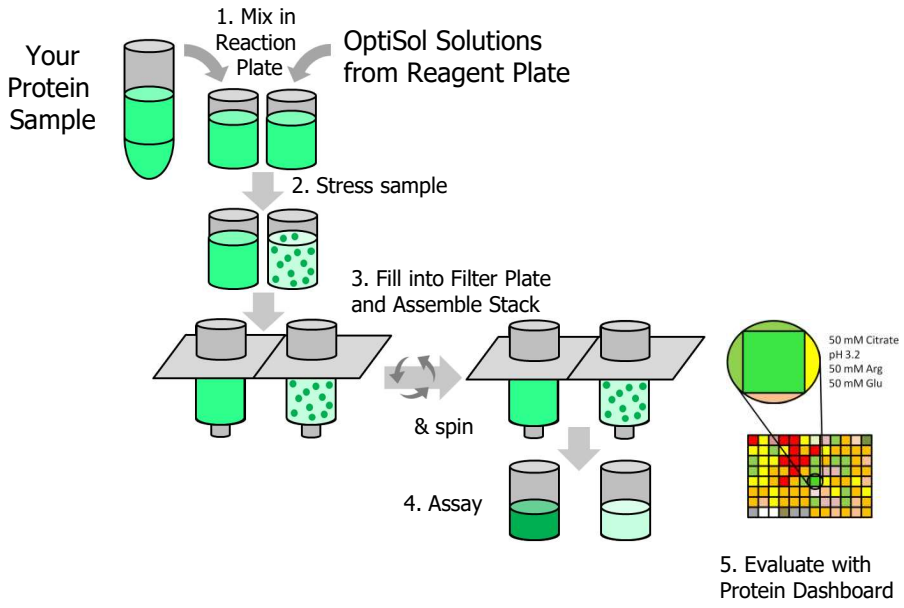
Protocol A: Protein Solubility Profiling

Goal: identify conditions that keep protein solubilized

Material: non-aggregated protein sample (100 µL – 2 mL)

Protocol:

1. Mix aliquots of protein sample with solutions from Reagent Plate in Reaction Plate (i.e. 96 x 20 µL protein + 150 µL OptiSol reagent). We recommend to obtain the reference reading of OptiSol Reagents (without protein) for more accurate results.
2. Apply aggregation stress (i.e. heat to 37°C; incubate over night or 2 weeks; 20 x freeze/thaw cycles; shear through narrow-bore needle;…).
3. Fill into Filter Plate and assemble Stack (Filter Plate on top, Collection Plate on bottom) and spin 30 min @ 3,000 rpm.
4. Assess protein content/function in filtrate. Evaluate data with Protein Dashboard and identify best solution. Consult the Manual for details. (www.solublebiotech.com).



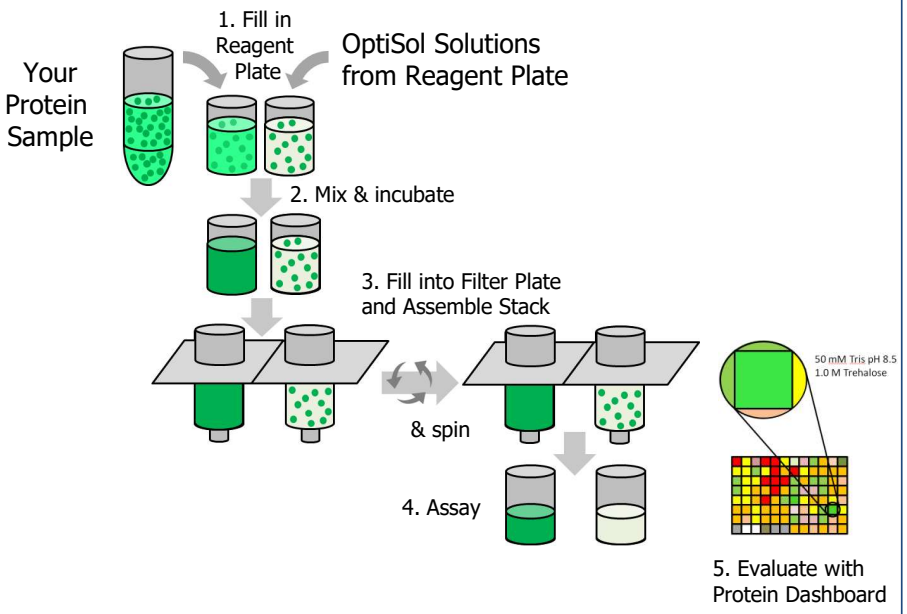
Protocol B: Solubilize Aggregated Protein

Goal: identify conditions that solubilize an aggregated protein sample

Material: aggregated protein sample (100 µL – 2 mL)

Protocol:

1. Fill aliquots of aggregated protein sample into Reaction Plate (i.e. 96 x 20 µL protein + 150 µL OptiSol reagent). We recommend to obtain the reference reading of OptiSol Reagents (without protein) for more accurate results.
1. Mix and incubate for more than 10 min.
2. Fill into Filter Plate and assemble Stack (Filter Plate on top, Collection Plate on bottom) and spin 30 min @ 3,000 rpm.
3. Assess protein content/function in filtrate. Evaluate data with Protein Dashboard and identify best solution. Consult the Manual for details. (www.solublebiotech.com).



OptiSol™

Protein Solubility Screening Kit

Product Information

Content:

- 1 x 96 well OptiReagent Plate
- 1 x 96 well Filter Plate
- 1 x 96 well Collection Plate
- Quick Start Guide and MSDS

Purpose

OptiSol Protein Solubility Screening Kit

Systematic solution design and array-based filtration technology for:

- **Protein Solubility Profiling**

or

- **Solubilizing of Aggregated Protein Sample**

For updated instructions and additional information please refer to www.solublebiotech.com

Order Information

OptiSol Kit I	cat. #SOL-102-001	$399.00 USD
OptiSol Kit II	cat. #SOL-102-002	$399.00 USD
OptiSol Kit III	cat. #SOL-102-003	$399.00 USD
OptiSol Kit IV	cat. #SOL-102-004	$399.00 USD

*Kits can be purchased in 3 pack at discount for $999.00 USD

Soluble Biotech
200 Riverhills Business Park
Ste. 250
Birmingham, AL 35242
USA

www.solublebiotech.com
info@solublebiotech.com

Reagent Listing

Well #	Row	Col	Buffer#	Conc	unit	pH	Additive NAME	Conc	unit
1	A	1	Glycine	100	mM	3.0			
2	A	2	Citric Acid	100	mM	3.2			
3	A	3	PIPPS	100	mM	3.7			
4	A	4	Citric Acid	100	mM	4.0			
5	A	5	Sodium Acetate	100	mM	4.5			
6	A	6	Na/K Phosphate	100	mM	5.0			
7	A	7	Sodium Citrate	100	mM	5.5			
8	A	8	Na/K Phosphate	100	mM	6.0			
9	A	9	Bis-Tris	100	mM	6.0			
10	A	10	MES	100	mM	6.2			
11	A	11	ADA	100	mM	6.5			
12	A	12	Bis-Tris Propane	100	mM	6.5			
13	B	1	Ammonium Acetate	100	mM	7.0			
14	B	2	MOPS	100	mM	7.0			
15	B	3	Na/K Phosphate	100	mM	7.0			
16	B	4	HEPES	100	mM	7.5			
17	B	5	Tris	100	mM	7.5			
18	B	6	EPPS	100	mM	8.0			
19	B	7	Imidazole	100	mM	8.0			
20	B	8	Bicine	100	mM	8.5			
21	B	9	Tris	100	mM	8.5			
22	B	10	CHES	100	mM	9.0			
23	B	11	CHES	100	mM	9.5			
24	B	12	CAPS	100	mM	10.0			
25	C	1	Glycine	50	mM	3.0	NaCl	150	mM
26	C	2	Sodium Acetate	50	mM	4.5	NaCl	150	mM
27	C	3	Bis-Tris	50	mM	6.0	NaCl	150	mM
28	C	4	MOPS	50	mM	7.0	NaCl	150	mM
29	C	5	Imidazole	50	mM	8.0	NaCl	150	mM
30	C	6	CHES	50	mM	9.5	NaCl	150	mM
31	C	7	Citric Acid	50	mM	3.2	NaCl	500	mM
32	C	8	Na/K Phosphate	50	mM	5.0	NaCl	500	mM
33	C	9	ADA	50	mM	6.5	NaCl	500	mM
34	C	10	HEPES	50	mM	7.5	NaCl	500	mM
35	C	11	Tris	50	mM	8.5	NaCl	500	mM
36	C	12	CAPS	50	mM	10.0	NaCl	500	mM
37	D	1	Glycine	50	mM	3.0	Trehalose	500	mM
38	D	2	Sodium Acetate	50	mM	4.5	Trehalose	500	mM
39	D	3	Bis-Tris	50	mM	6.0	Trehalose	500	mM
40	D	4	MOPS	50	mM	7.0	Trehalose	500	mM
41	D	5	Imidazole	50	mM	8.0	Trehalose	500	mM
42	D	6	CHES	50	mM	9.5	Trehalose	500	mM
43	D	7	Citric Acid	50	mM	3.2	TMAO	500	mM
44	D	8	Na/K Phosphate	50	mM	5.0	TMAO	500	mM
45	D	9	ADA	50	mM	6.5	TMAO	500	mM
46	D	10	HEPES	50	mM	7.5	TMAO	500	mM
47	D	11	Tris	50	mM	8.5	TMAO	500	mM
48	D	12	CAPS	50	mM	10.0	TMAO	500	mM
49	E	1	Glycine	50	mM	3.0	Na_2SO_4	500	mM
50	E	2	Sodium Acetate	50	mM	4.5	Na_2SO_4	500	mM
51	E	3	Bis-Tris	50	mM	6.0	Na_2SO_4	500	mM
52	E	4	MOPS	50	mM	7.0	Na_2SO_4	500	mM
53	E	5	Imidazole	50	mM	8.0	Na_2SO_4	500	mM
54	E	6	CHES	50	mM	9.5	Na_2SO_4	500	mM
55	E	7	Citric Acid	50	mM	3.2	Arg/Glu*	50	mM
56	E	8	Na/K Phosphate	50	mM	5.0	Arg/Glu*	50	mM
57	E	9	ADA	50	mM	6.5	Arg/Glu*	50	mM
58	E	10	HEPES	50	mM	7.5	Arg/Glu*	50	mM
59	E	11	Tris	50	mM	8.5	Arg/Glu*	50	mM
60	E	12	CAPS	50	mM	10.0	Arg/Glu*	50	mM
61	F	1	Glycine	50	mM	3.0	Tween 20	1	% (w/v)
62	F	2	Sodium Acetate	50	mM	4.5	Tween 20	1	% (w/v)
63	F	3	Bis-Tris	50	mM	6.0	Tween 20	1	% (w/v)
64	F	4	MOPS	50	mM	7.0	Tween 20	1	% (w/v)
65	F	5	Imidazole	50	mM	8.0	Tween 20	1	% (w/v)
66	F	6	CHES	50	mM	9.5	Tween 20	1	% (w/v)
67	F	7	Citric Acid	50	mM	3.2	Solubilisin II™	100	% (w/v)
68	F	8	Na/K Phosphate	50	mM	5.0	Solubilisin II™	100	% (w/v)
69	F	9	ADA	50	mM	6.5	Solubilisin II™	100	% (w/v)
70	F	10	HEPES	50	mM	7.5	Solubilisin II™	100	% (w/v)
71	F	11	Tris	50	mM	8.5	Solubilisin II™	100	% (w/v)
72	F	12	CAPS	50	mM	10.0	Solubilisin II™	100	% (w/v)
73	G	1	Glycine	50	mM	3.0	Glycerol	20	% (w/v)
74	G	2	Sodium Acetate	50	mM	4.5	Glycerol	20	% (w/v)
75	G	3	Bis-Tris	50	mM	6.0	Glycerol	20	% (w/v)
76	G	4	MOPS	50	mM	7.0	Glycerol	20	% (w/v)
77	G	5	Imidazole	50	mM	8.0	Glycerol	20	% (w/v)
78	G	6	CHES	50	mM	9.5	Glycerol	20	% (w/v)
79	G	7	Citric Acid	50	mM	3.2	Betaine	1	M
80	G	8	Na/K Phosphate	50	mM	5.0	Betaine	1	M
81	G	9	ADA	50	mM	6.5	Betaine	1	M
82	G	10	HEPES	50	mM	7.5	Betaine	1	M
83	G	11	Tris	50	mM	8.5	Betaine	1	M
84	G	12	CAPS	50	mM	10.0	Betaine	1	M
85	H	1	H2O	100	%				
86	H	2	H2O	100	%				
87	H	3							
88	H	4					AmSulfate	3	M
89	H	5					Acetonitrile	80	% (v/v)
90	H	6	PEG 1450	10	%		NaCl	50	mM
91	H	7					DTT	1	mM
92	H	8					DTT	5	mM
93	H	9					DTT	15	mM
94	H	10					BME	2.5	mM
95	H	11					BME	10	mM
96	H	12					BME	20	mM

TMAO, Trimethylamine N-Oxide; PIPPS, Piperazine-N, n'-Bis (3-Propanesulfonic Acid); MES, 2-(N-morpholino) ethanesulfonic acid; MOPS, 3-(N-morpholino) propanesulfonic acid; HEPES, 4-(2-hydroxyethyl)-1-piperazineethanesulfonic acid; Arg/Glu*: 50mM of each Arginine and Glutamate; DDT, DL-Dithiothreitol; BME, 2-Mercaptoethanol; Betaine, Trimethyl-Glycine; CAPS, N-cyclohexyl-3-aminopropanesulfonic acid; ADA, N-(2-Acetamido)iminodiacetic Acid; Tris, tris(hydroxymethyl)aminomethane; CHES, 2-(N-Cyclohexylamino)ethane Sulfonic Acid; EPPS, N-(2-hyroxyethyl)piperazine-N'-(3-propanesulfonic acid). # pH values for buffers used only; * each amino acid is 50 mM