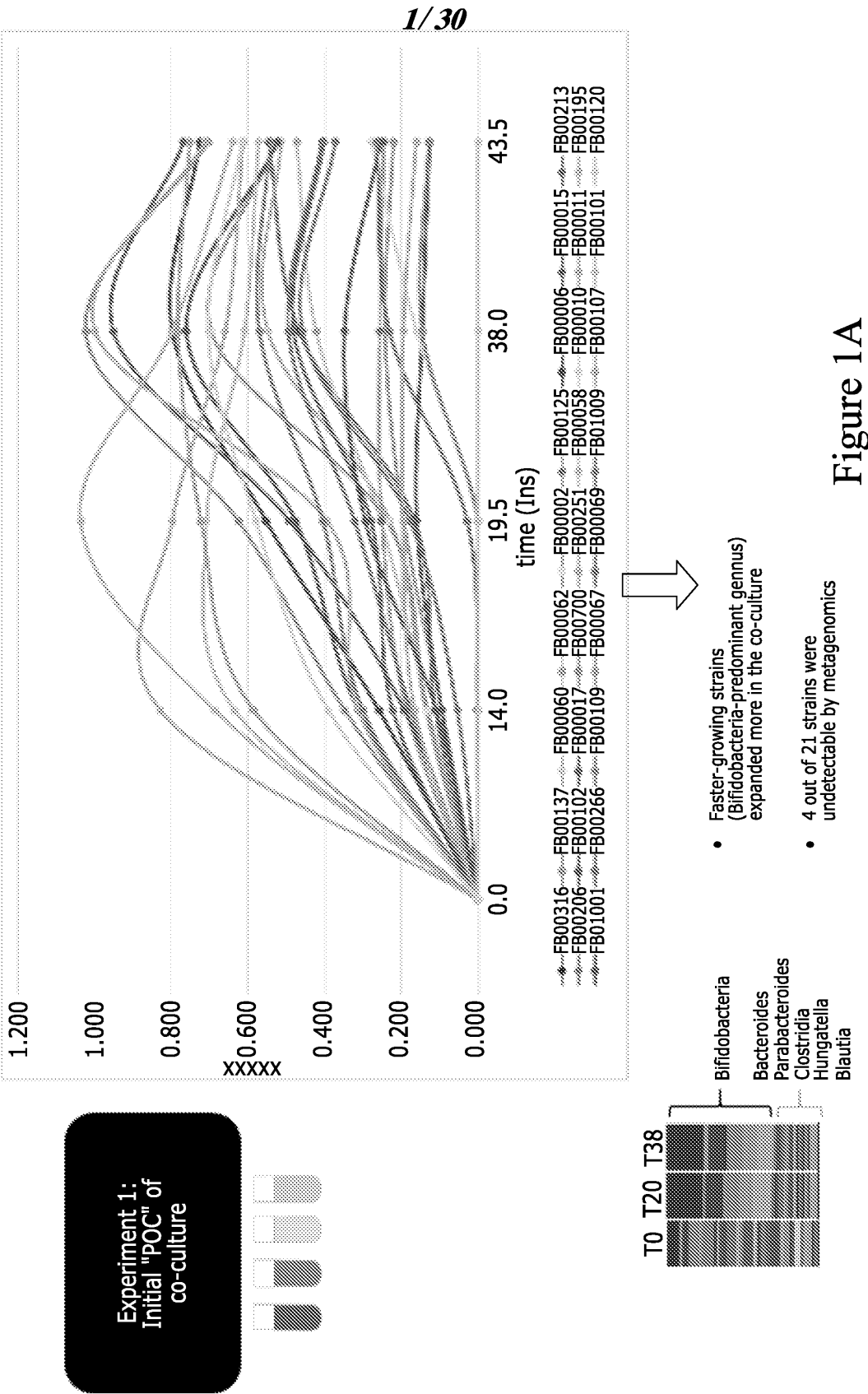




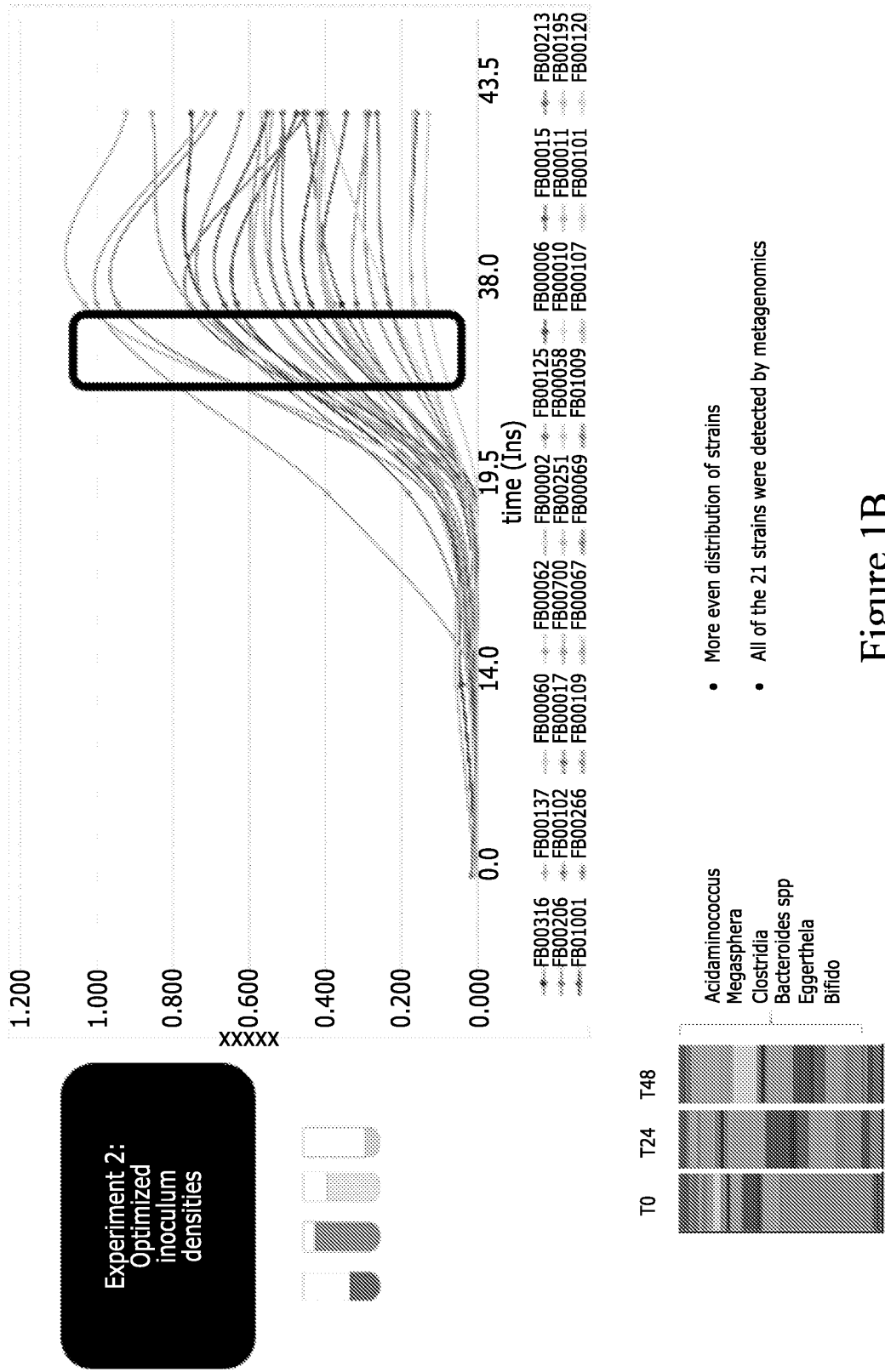


Figure 1B

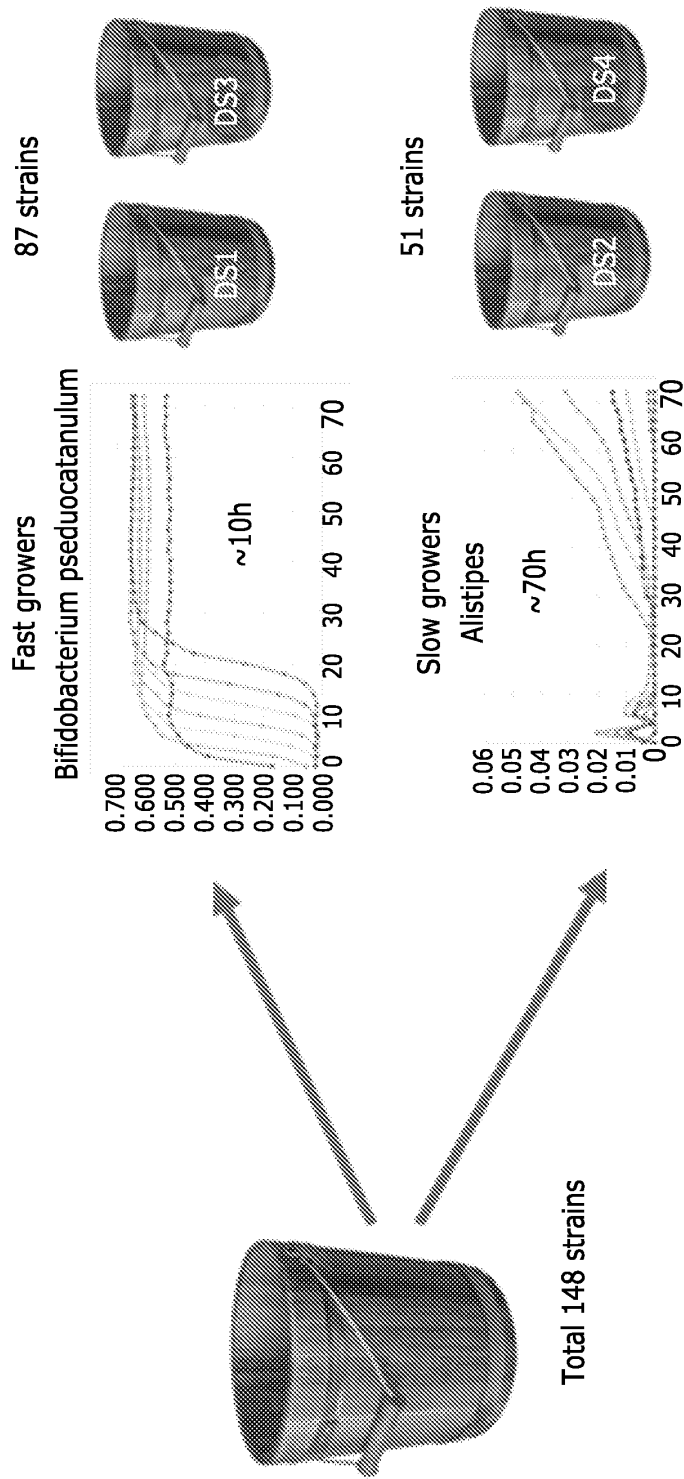


Figure 2A

3/ 30/1

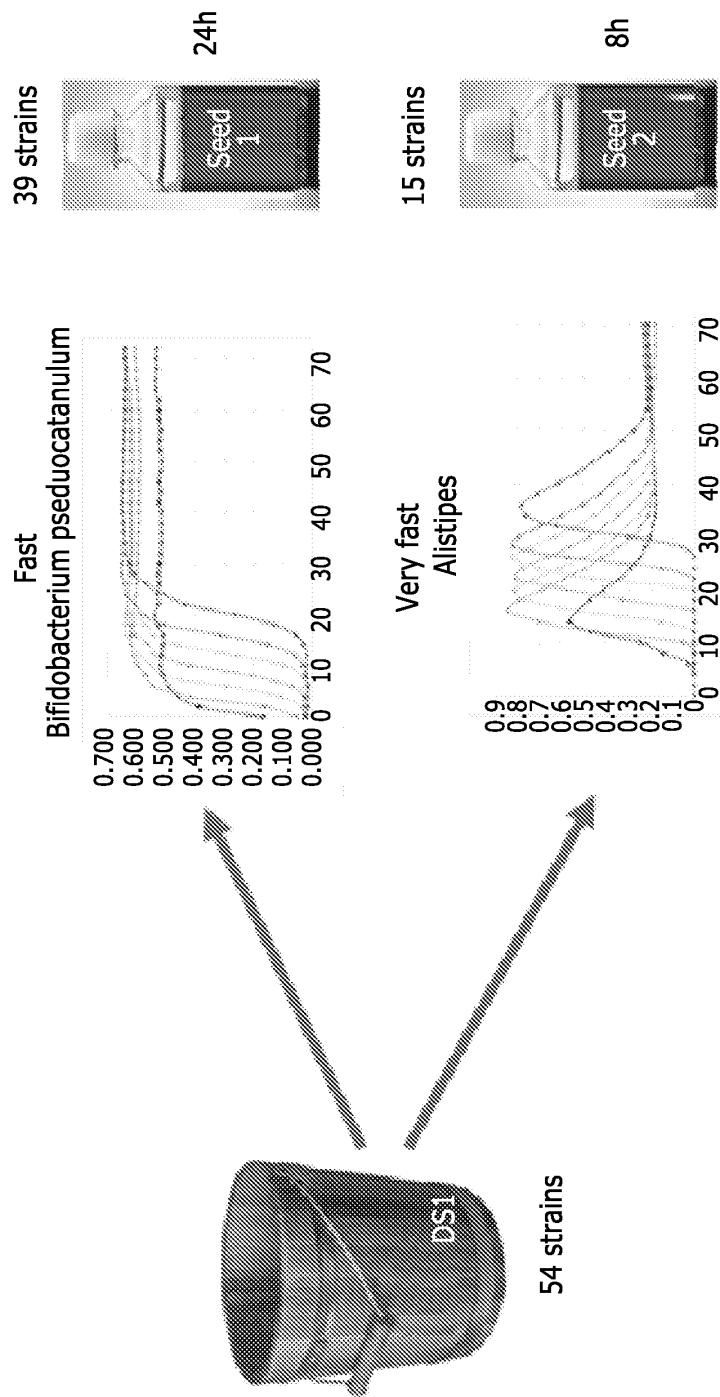


Figure 2B

4/30

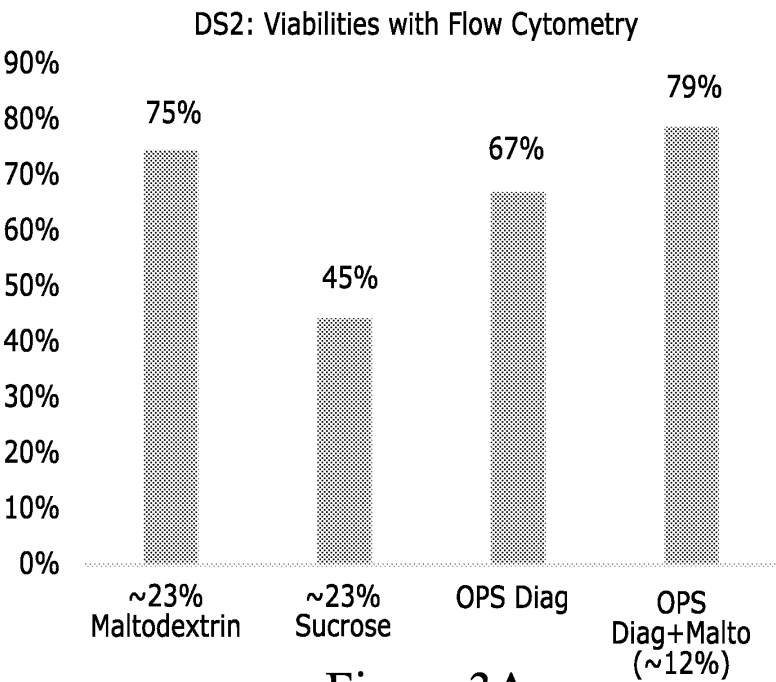


Figure 3A

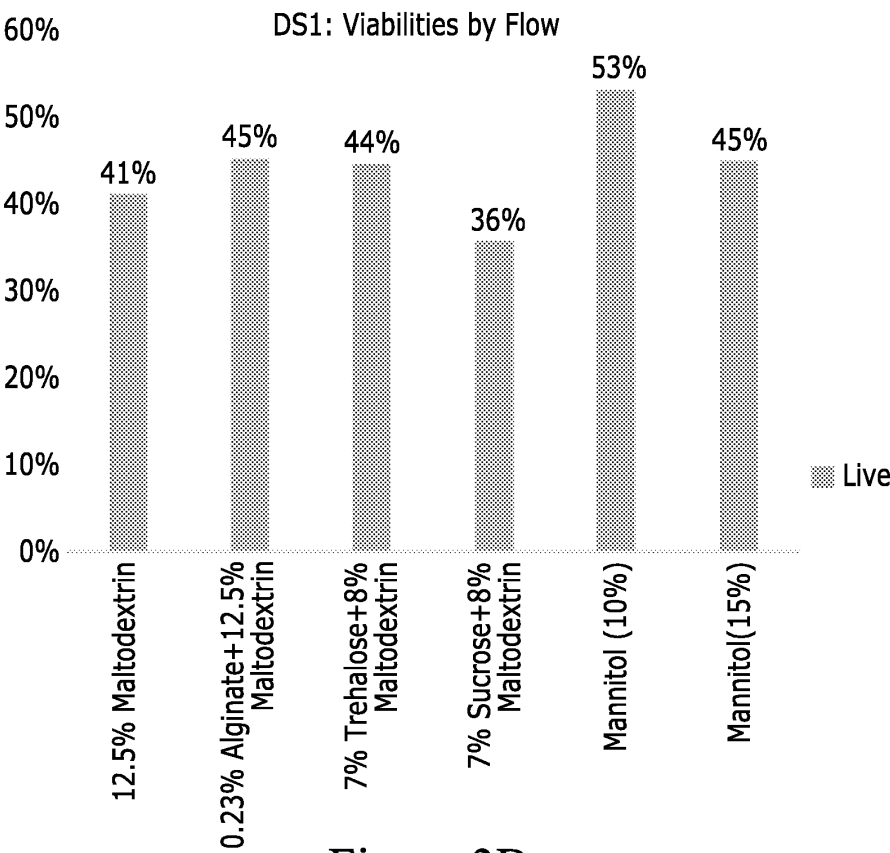


Figure 3B

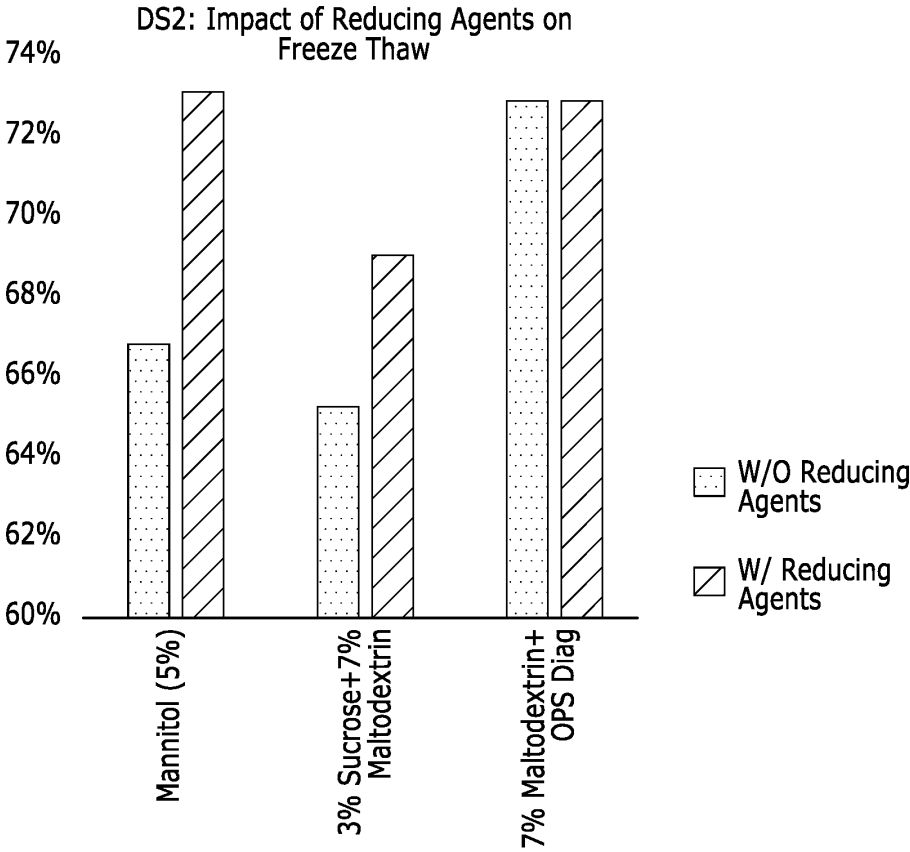


Figure 4A

5/30/1

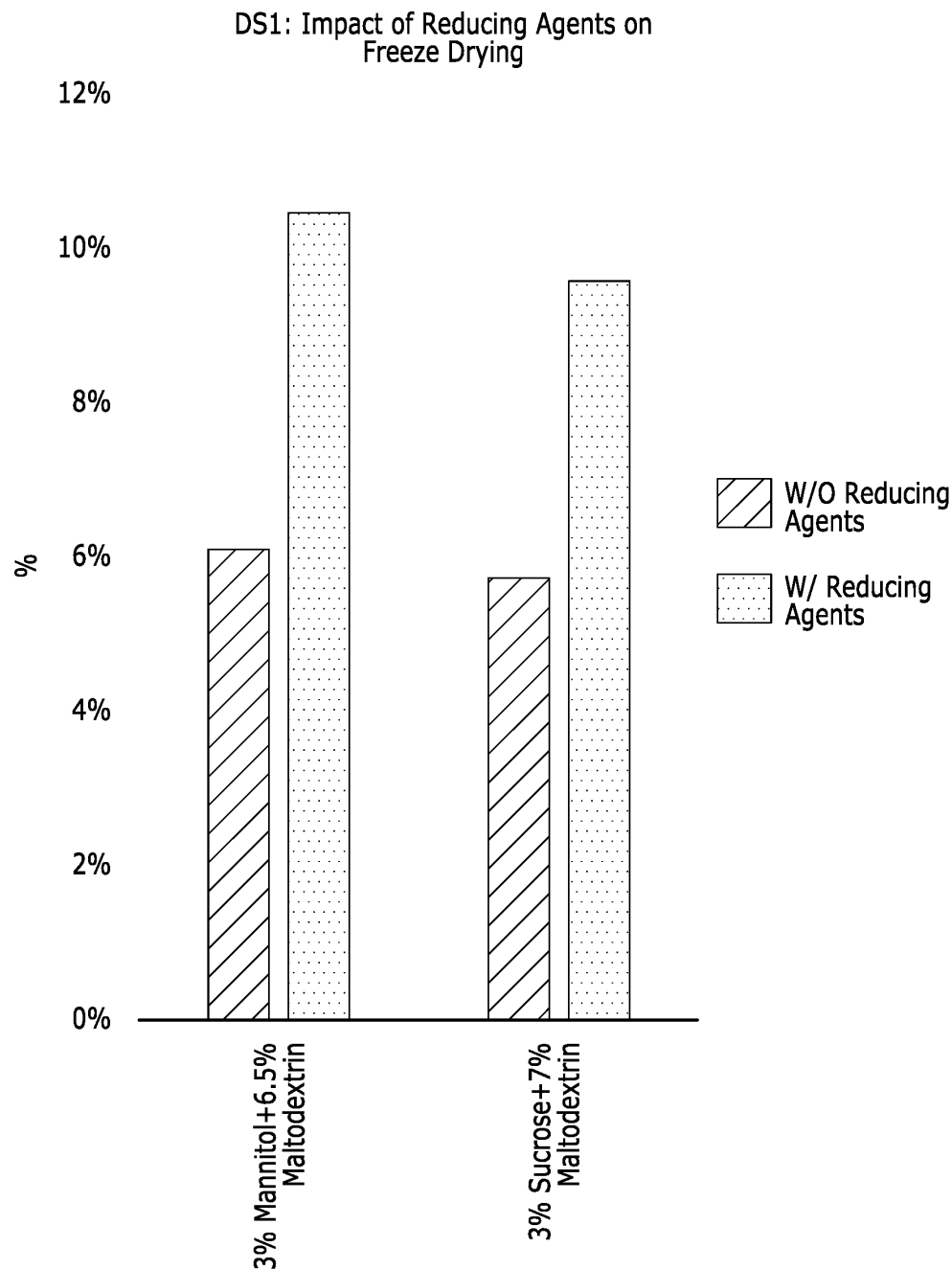
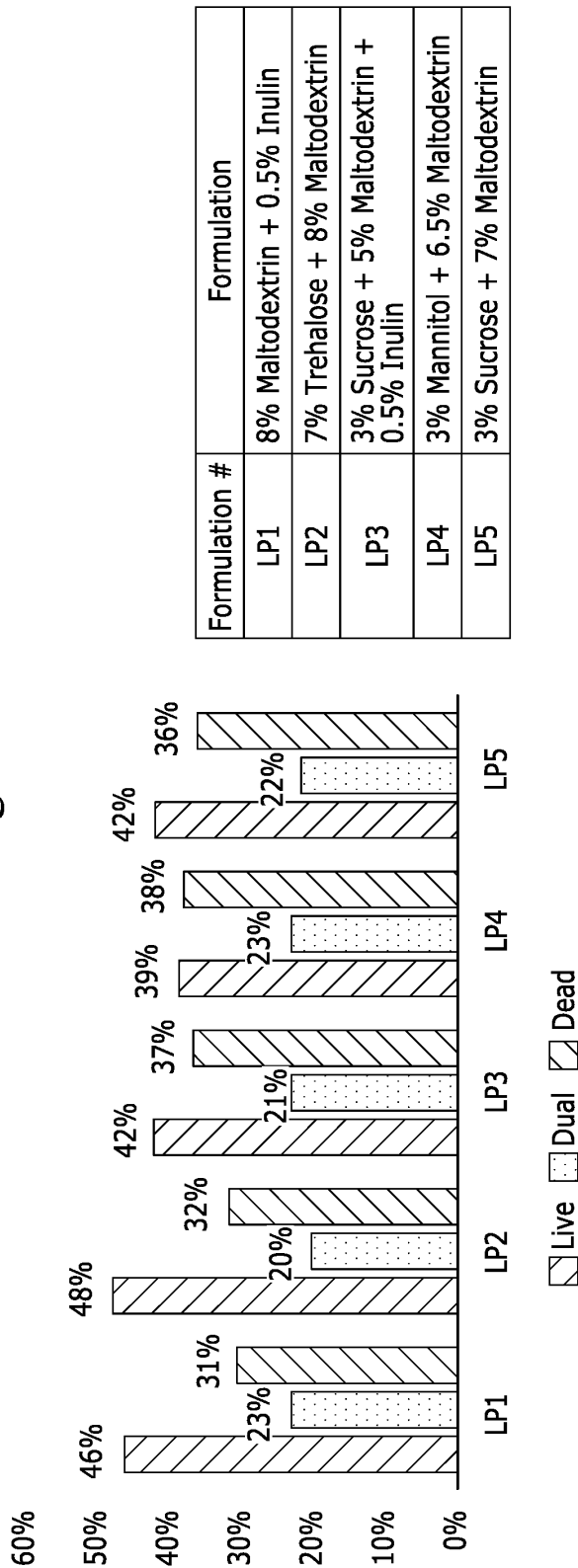
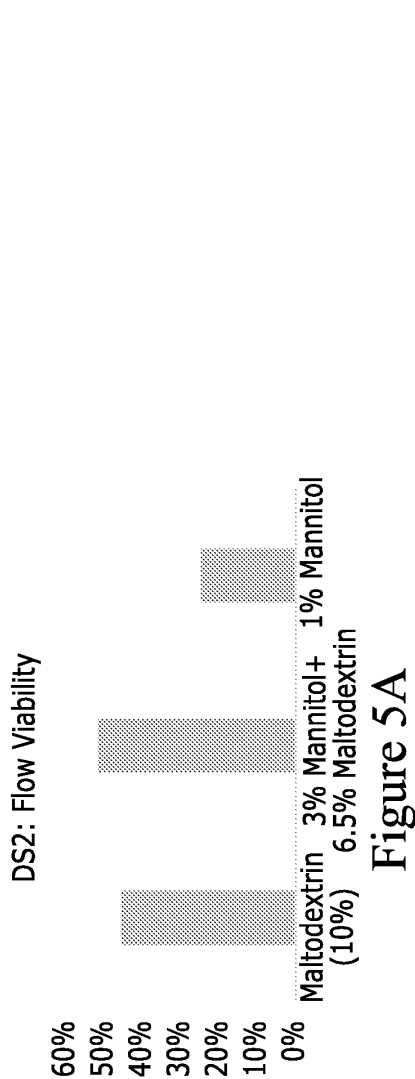


Figure 4B



7/30

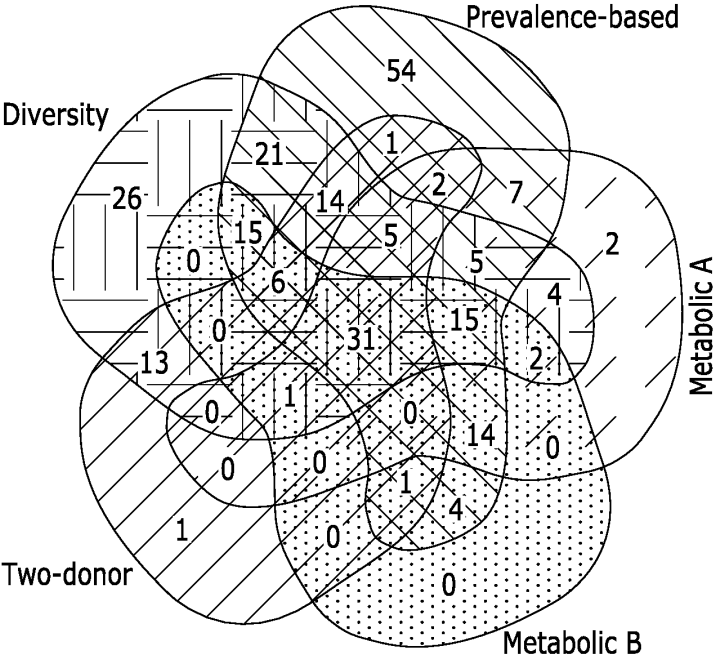


Figure 6A

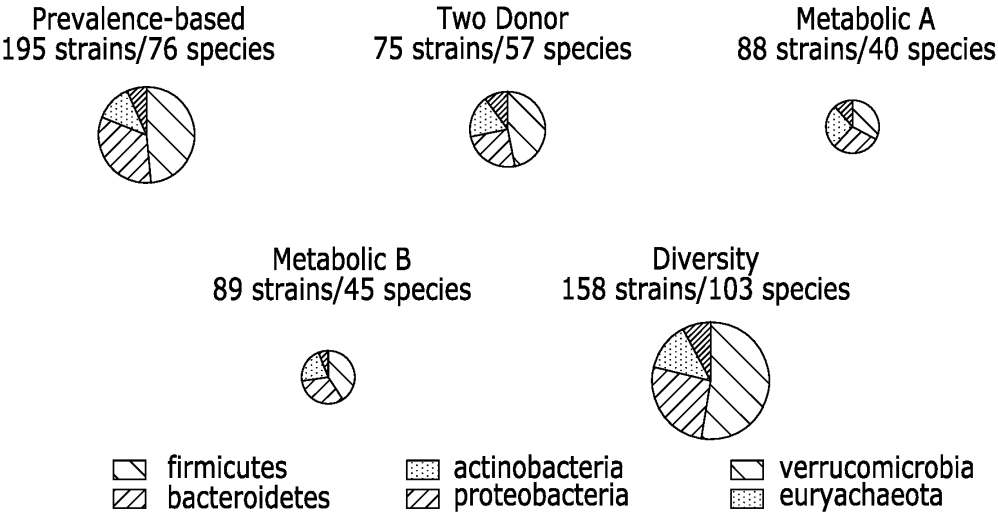


Figure 6B

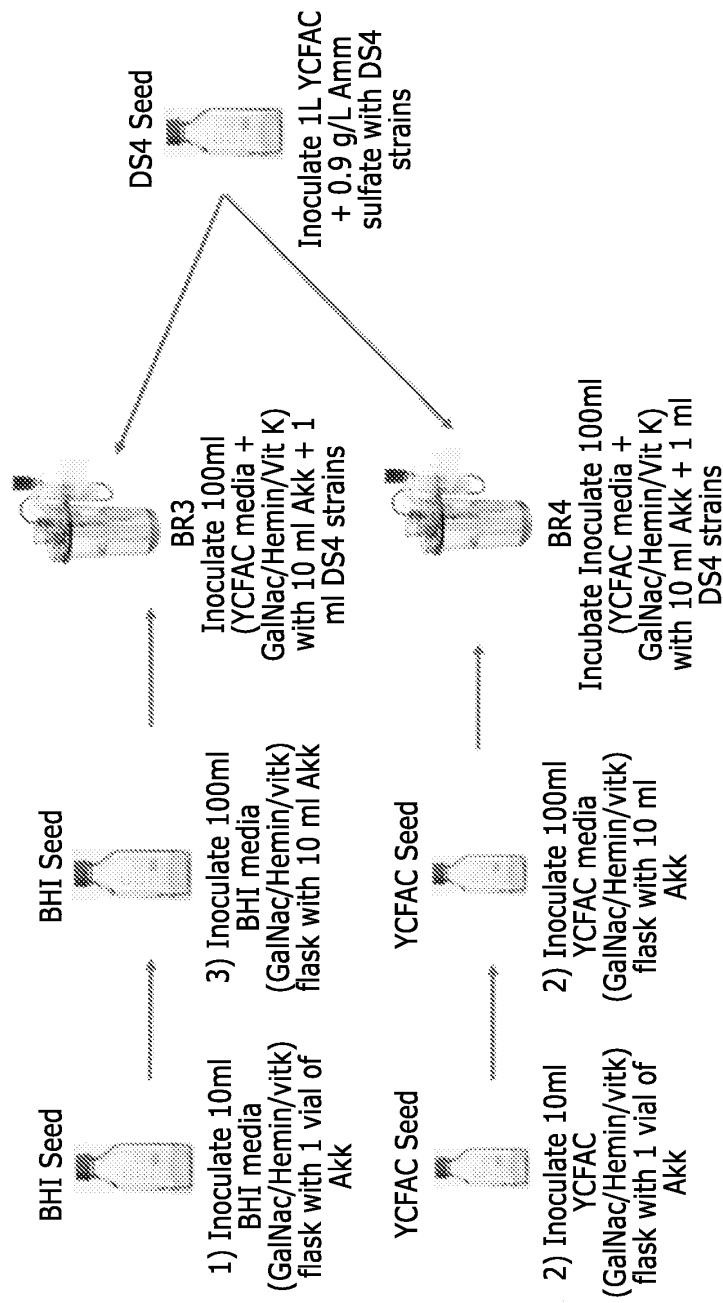


Figure 7A

8/30/1

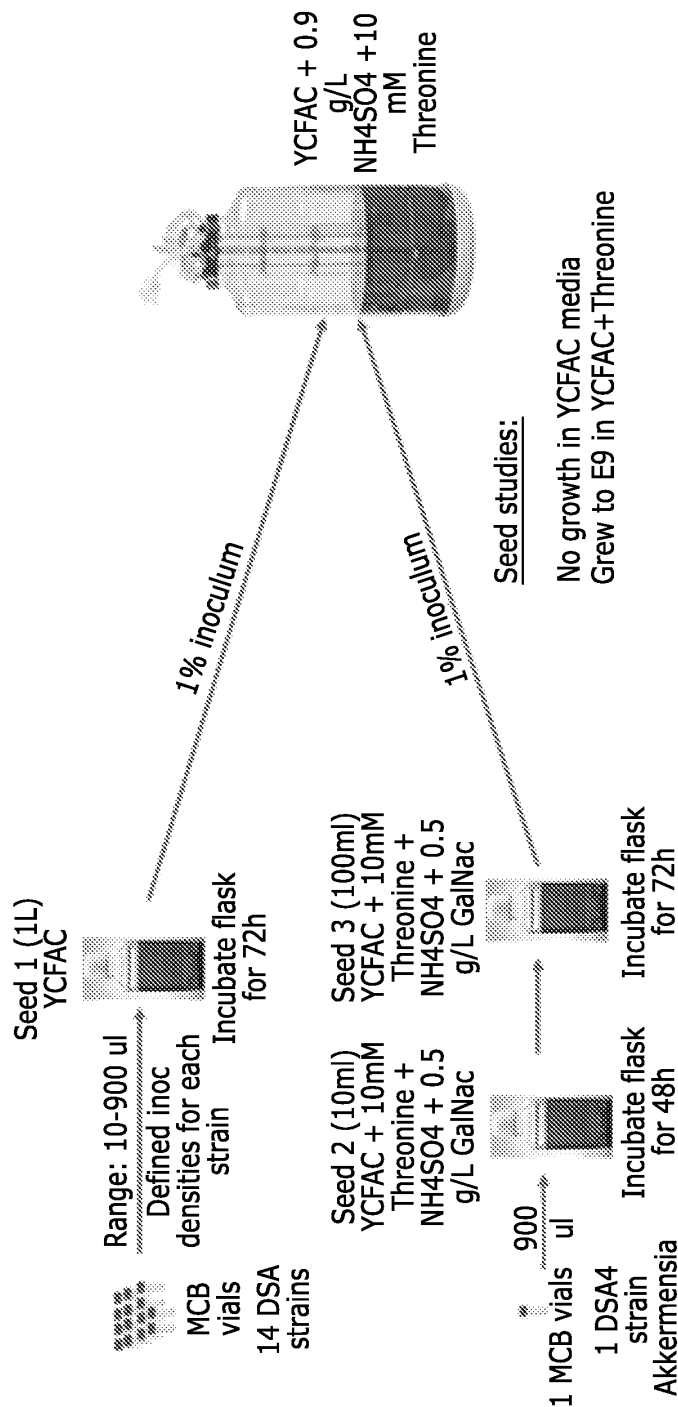


Figure 7B

DS4 STRAIN	NANOSTRING RELATIVE ABUNDANCE									
	BR3T48	BR3T72	BR3T90	BR4T48	BR4T72	BR4T90				
FBI00022 Alistipes putredinis	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%				
FBI00049 Dialister succinatiphilus	6.0203%	10.7471%	12.1404%	5.8967%	14.4136%	8.9135%				
FBI00068 Akkermansia muciniphila	0.1516%	0.1863%	0.2363%	0.0000%	0.0000%	0.0000%				
FBI00069 Ruminococcus bromii	19.7318%	22.0480%	27.3751%	13.9406%	28.0888%	20.5477%				
FBI00152 Dialister invisus	0.1503%	0.3182%	0.4098%	0.0458%	0.3170%	0.1409%				
FBI00165 Bacteroides massiliensis	57.6641%	45.3157%	29.7861%	65.8948%	32.1252%	56.3528%				
FBI00171 Bilophila wadsworthia	0.0062%	0.0312%	0.0900%	0.0108%	0.1157%	0.0262%				
FBI00175 Holdemanella biformis	3.7748%	5.4483%	7.5784%	2.4523%	8.4432%	4.3293%				
FBI00177 Parasutterella excrementihominis	9.3095%	10.4827%	14.4244%	9.6927%	8.7491%	6.0595%				
FBI00180 Alistipes sp. FBI00180	0.0000%	0.0000%	0.0378%	0.0000%	0.0000%	0.0000%				
FBI00182 Bacteroides coprocola	0.0000%	0.0010%	0.0000%	0.0042%	0.0021%	0.0019%				
FBI00238 Alistipes sp. FBI00238	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%				
FBI00269 Alistipes putredinis	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%				
FBI00274 Eubacterium xylanophilum	2.8232%	4.6403%	6.6726%	1.8814%	6.4812%	3.1532%				
FBI00281 Senegalimassilia anaerobia	0.3680%	0.7813%	1.2491%	0.1807%	1.2641%	0.4751%				
Starins Present (>0)	10	11	11	10	10	10				
	BHI seed (GalNac/Hemin/vitk) YCFAC media (GalNac/Hemin/vitk)			YCFAC seed (GalNac/Hemin/vitk) YCFAC media (GalNac/Hemin/vitk)						

Figure 8

NANOSTRING RELATIVE ABUNDANCE							
DS4 STRAIN	F3T72	BR2T24	BR2T48	BR2T72	BR3T24	BR3T48	BR3T72
FBI00022 Alistipes putredinis	0.2680%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
FBI00049 Dialister succinatiphilus	6.0489%	4.7056%	4.5772%	4.5504%	4.6033%	3.9458%	4.3316%
FBI00068 Akkermansia muciniphila	0.0000%	0.4547%	0.1216%	0.0639%	0.5603%	0.2105%	0.1094%
FBI00069 Ruminococcus bromii	27.8276%	34.5134%	32.6548%	33.6378%	37.5228%	34.3687%	33.1256%
FBI00152 Dialister invisus	2.2633%	0.1890%	0.2837%	0.3185%	0.1737%	0.2313%	0.2638%
FBI00165 Bacteroides massiliensis	0.5155%	0.0000%	0.0000%	0.1674%	0.0066%	0.1881%	0.2469%
FBI00171 Bilophila wadsworthia	0.6048%	0.2618%	0.5216%	1.3761%	0.2024%	0.3801%	1.1367%
FBI00175 Holdemanella biformis	23.4680%	0.6758%	5.2108%	5.8173%	1.0380%	4.6662%	5.1955%
FBI00177 Parasutterella excrementihominis	10.5772%	9.7958%	9.1025%	9.5811%	10.3329%	8.8915%	10.1557%
FBI00180 Alistipes sp. FBI00180	0.4292%	5.5722%	8.1571%	8.6443%	4.7327%	8.0730%	8.8422%
FBI00182 Bacteroides coprocola	19.5120%	40.6707%	34.0359%	30.8686%	38.0707%	34.5246%	31.7445%
FBI00238 Alistipes sp. FBI00238	0.2890%	0.6323%	1.0360%	0.6129%	0.5181%	0.9280%	0.6106%
FBI00269 Alistipes putredinis	0.4646%	0.0713%	0.0531%	0.0371%	0.0442%	0.0338%	0.0387%
FBI00274 Eubacterium xylanophilum	1.2962%	1.3367%	3.0236%	3.0618%	1.2028%	2.6391%	3.1805%
FBI00281 Senegalimassilia anaerobia	6.4355%	1.1094%	1.2222%	1.2627%	0.9904%	0.9194%	1.0182%
Starins Present (>0)	14	13	13	14	14	14	14
Percent of Strains Present	93.33%	86.67%	86.67%	93.33%	93.33%	93.33%	93.33%
Percent of Positive Probe Signal	100.00%	99.99%	100.00%	100.00%	100.00%	100.00%	100.00%

Figure 9

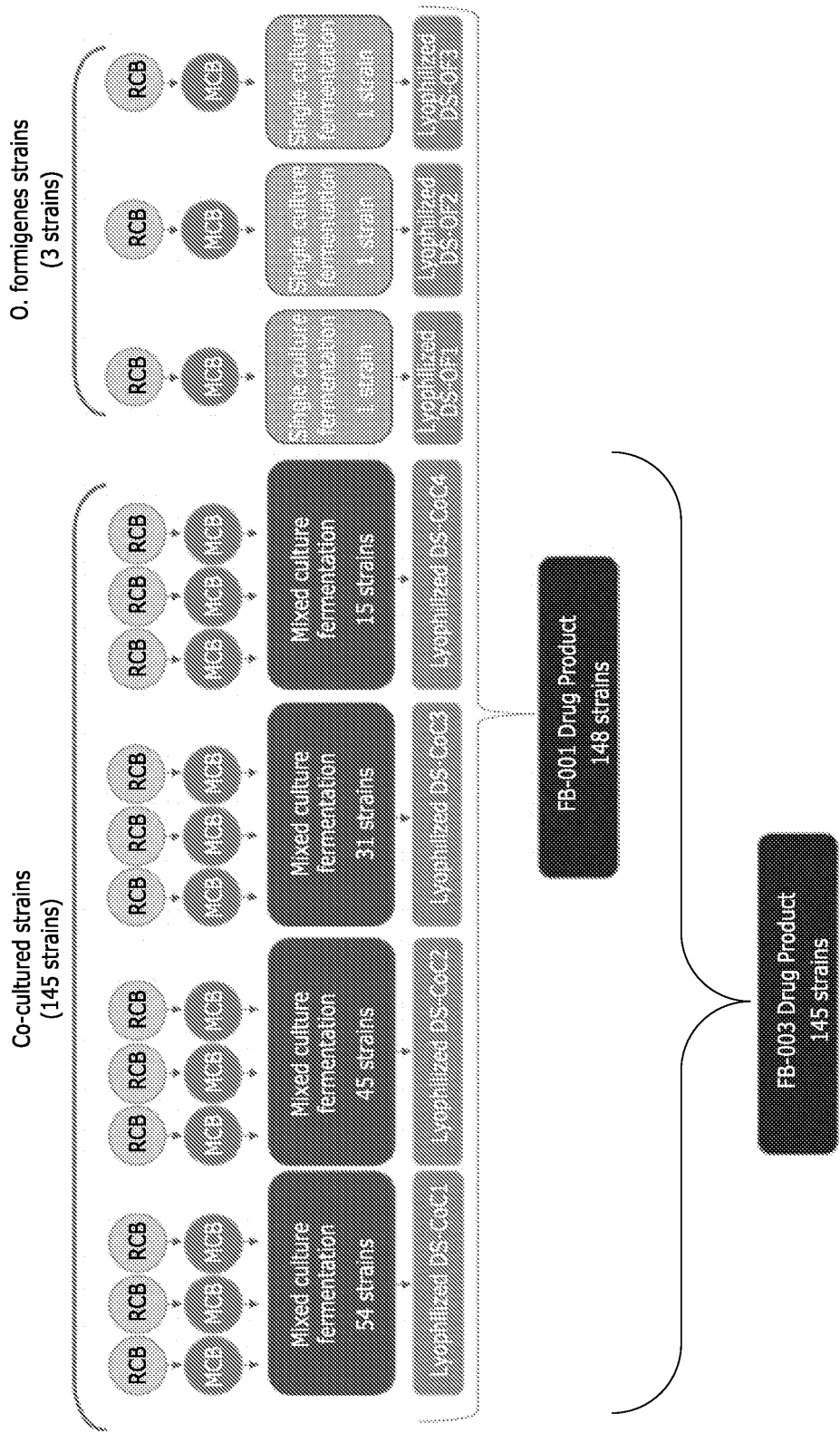


Figure 10

12/30

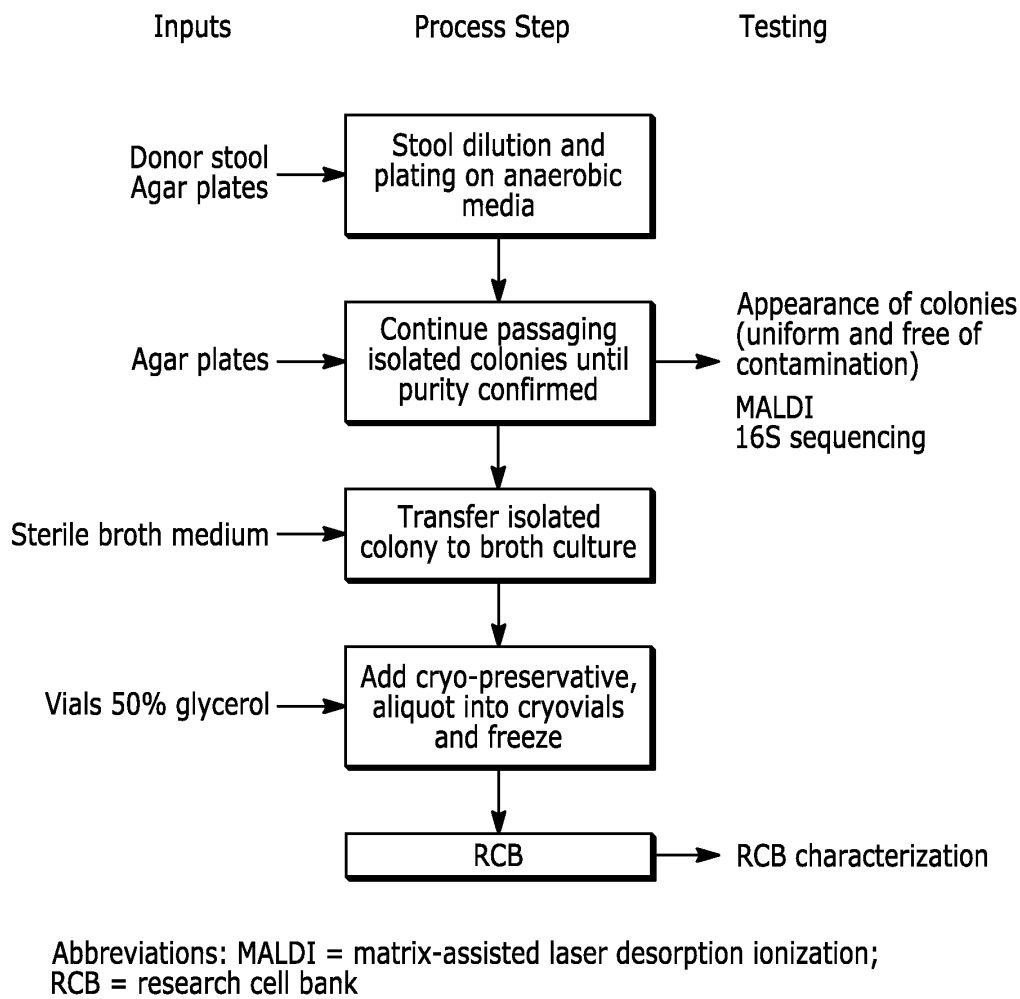
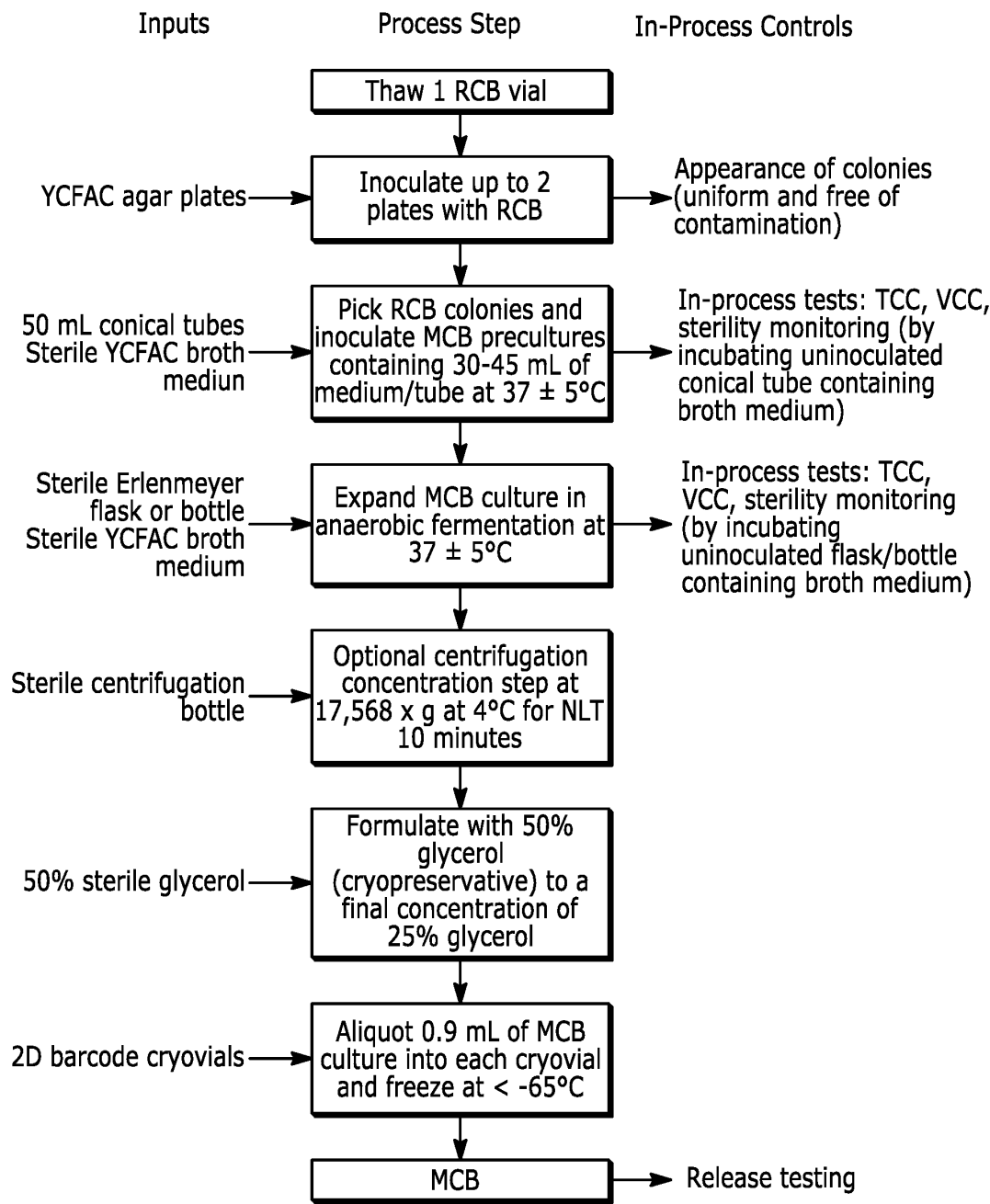


Figure 11

13/30



Abbreviations: MCB = master cell bank; NLT = not less than; RCB = research cell bank; TCC = total cell counts; VCC = viable cell counts; YCFAC = yeast casitone fatty acids with carbohydrates

Figure 12

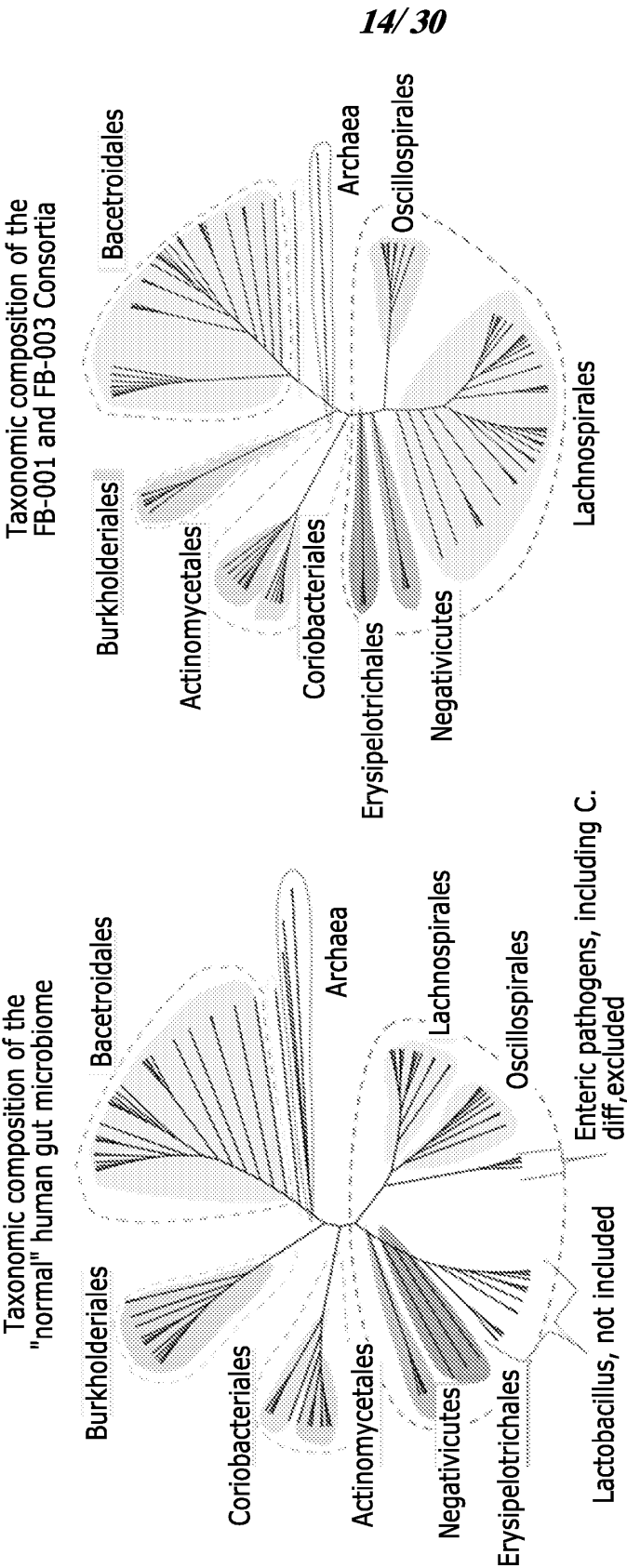


Figure 13

King, Plos One, 2019

SEQ ID NO	Strain No.	Species	SEQ ID NO	Strain No.	Species
1	FBI00001	Clostridium citroniae	26	FBI00044	Blautia wexlerae
2	FBI00002	Bacteroides salyersiae	27	FBI00046	Bacteroides caccae
3	FBI00004	Acutalibacter timonensis	28	FBI00047	Eubacterium eligens
4	FBI00009	Bifidobacterium adolescentis	29	FBI00048	Fusicatenibacter saccharivorans
5	FBI00010	Blautia obeum	30	FBI00049	Dialister succinatiphilus
6	FBI00011	Bifidobacterium longum	31	FBI00050	Bacteroides nordii
7	FBI00012	Alistipes onderdonkii	32	FBI00051	Dorea formicigenerans
8	FBI00013	Parabacteroides merdae	33	FBI00052	Bacteroides xylanisolvens
9	FBI00015	Bacteroides uniformis	34	FBI00053	Lactobacillus rogosae
10	FBI00016	Bifidobacterium pseudocatenulatum	35	FBI00056	Clostridium citroniae
11	FBI00018	Eubacterium rectale	36	FBI00057	Dorea longicatena
12	FBI00019	Alistipes timonensis	37	FBI00059	Bacteroides stercorisoris
13	FBI00020	Bacteroides thetaiotaomicron	38	FBI00060	Bifidobacterium longum
14	FBI00021	Bacteroides kribbi	39	FBI00061	Alistipes shahii
15	FBI00022	Alistipes putredinis	40	FBI00062	Collinsella aerofaciens
16	FBI00025	Coprococcus comes	41	FBI00066	Parasutterella excrementihominis
17	FBI00027	Fusicatenibacter saccharivorans	42	FBI00067	Oxalobacter formigenes
18	FBI00029	Parabacteroides distasonis	43	FBI00068	Akkermansia muciniphila
19	FBI00030	Eggerthella lenta	44	FBI00069	Ruminococcus bromii
20	FBI00032	Anaerostipes hadrus	45	FBI00070	Bacteroides kribbi
21	FBI00033	Lachnospiraceae sp. FBI00033	46	FBI00071	Lachnospiraceae sp. FBI00071
22	FBI00034	Eubacterium eligens	47	FBI00075	Paraprevotella clara
23	FBI00038	Coprococcus eutactus	48	FBI00076	Bacteroides thetaiotaomicron
24	FBI00040	Bilophila wadsworthia	49	FBI00077	Sutterella wadsworthensis
25	FBI00043	Bifidobacterium dentium	50	FBI00078	Blautia obeum

Figure 14A

16/30

SEQ ID NO	Strain No.	Species	SEQ ID NO	Strain No.	Species
51	FBI00079	Clostridium clostridioforme	76	FBI00127	Collinsella aerofaciens
52	FBI00080	Sutterella massiliensis	77	FBI00128	Hungatella effluvii
53	FBI00081	Porphyromonas asaccharolytica	78	FBI00132	Gordonibacter pamelaee
54	FBI00085	Ruminococcus bromii	79	FBI00133	Oxalobacter formigenes
55	FBI00087	Clostridium scindens	80	FBI00135	Bifidobacterium pseudocatenulatum
56	FBI00092	Monoglobus pectinilyticus	81	FBI00137	Bacteroides fragilis
57	FBI00093	Roseburia hominis	82	FBI00140	Phascolarctobacterium faecium
58	FBI00096	Eggerthella lenta	83	FBI00145	Bifidobacterium adolescentis
59	FBI00097	Ruminococcaceae sp. FBI00097	84	FBI00147	Clostridium boltea
60	FBI00099	Gordonibacter pamelaee	85	FBI00149	Monoglobus pectinilyticus
61	FBI00102	Clostridium fessum	86	FBI00151	Clostridium aidenense
62	FBI00104	Blautia wexlerae	87	FBI00152	Dialister invisus
63	FBI00109	Coprococcus comes	88	FBI00159	Eisenbergiella tayi
64	FBI00110	Lachnospirillum pacaense	89	FBI00162	Bifidobacterium catenulatum
65	FBI00111	Bacteroides vulgatus	90	FBI00165	Bacteroides massiliensis
66	FBI00112	Bacteroides uniformis	91	FBI00167	Dorea longicatena
67	FBI00113	Parabacteroides merdae	92	FBI00170	Eggerthella lenta
68	FBI00115	Dorea formicigenerans	93	FBI00171	Bilophila wadsworthia
69	FBI00116	Ruminococcus faecis	94	FBI00174	Lactobacillus rogosae
70	FBI00117	Blautia faecis	95	FBI00175	Holdemanella bififormis
71	FBI00120	Hungatella hathewayi	96	FBI00176	Ruthenibacterium lactatiformans
72	FBI00123	Roseburia hominis	97	FBI00177	Parasutterella excrementihominis
73	FBI00124	Anaerostipes hadrus	98	FBI00180	Alistipes sp. FBI00180
74	FBI00125	Bacteroides stercoris	99	FBI00182	Bacteroides coprocola
75	FBI00126	Bifidobacterium adolescentis	100	FBI00184	Bacteroides faecis

Figure 14B

SEQ ID NO	Strain No.	Species	SEQ ID NO	Strain No.	Species
101	FB100189	Bacteroides ovatus	125	FB100238	Alistipes sp. FB100238
102	FB100190	Bacteroides finegoldii	126	FB100243	Eubacterium siraeum
103	FB100191	Clostridiaceae sp. FB100191	127	FB100244	Faecalibacterium prausnitzii
104	FB100194	Ruminococcus faecis	128	FB100245	Acidaminococcus intestini
105	FB100197	Bifidobacterium bifidum	129	FB100248	Emergencia timonensis
106	FB100198	Lachnospirillum pacaense	130	FB100251	Bifidobacterium pseudocatenulatum
107	FB100199	Clostridium bolteae	131	FB100254	Eubacterium hallii
108	FB100200	Longicatena caecimuris	132	FB100255	Hungateella hathewayi
109	FB100201	Eggerthella lenta	133	FB100258	Turicibacter sanguinis
110	FB100205	Blautia massiliensis	134	FB100260	Eubacterium rectale
111	FB100206	Bacteroides xylanisolvens	135	FB100263	Bacteroides caccae
112	FB100208	Anaerotruncus massiliensis	136	FB100267	Anaerofustis stercorihominis
113	FB100211	Bacteroides vulgatus	137	FB100269	Alistipes putredinis
114	FB100212	Clostridium aldenense	138	FB100270	Methanobrevibacter smithii
115	FB100220	Megasphaera massiliensis	139	FB100271	Bacteroides xylanisolvens
116	FB100221	Butyrivibrio monas faecihominis	140	FB100273	Barnesiella intestinihominis
117	FB100224	Sutterella wadsworthensis	141	FB100274	Eubacterium xylanophilum
118	FB100226	Catabacter hongkongensis	142	FB100277	Alistipes onderdonkii
119	FB100229	Alistipes senegalensis	143	FB100278	Eubacterium ventriosum
120	FB100232	Bacteroides stercoris	144	FB100281	Senegalimassilia anaerobia
121	FB100233	Ruminococcaceae sp. FB100233	145	FB100288	Blautia hydrogenotrophica
122	FB100235	Alistipes shahii	146	FB100289	Oxalobacter formigenes
123	FB100236	Eisenbergiella tayi	147	FB100290	Lachnospiraceae sp. FB100290
124	FB100237	Dielma fastidiosa	148	FB100292	Methanobrevibacter smithii

Figure 14C

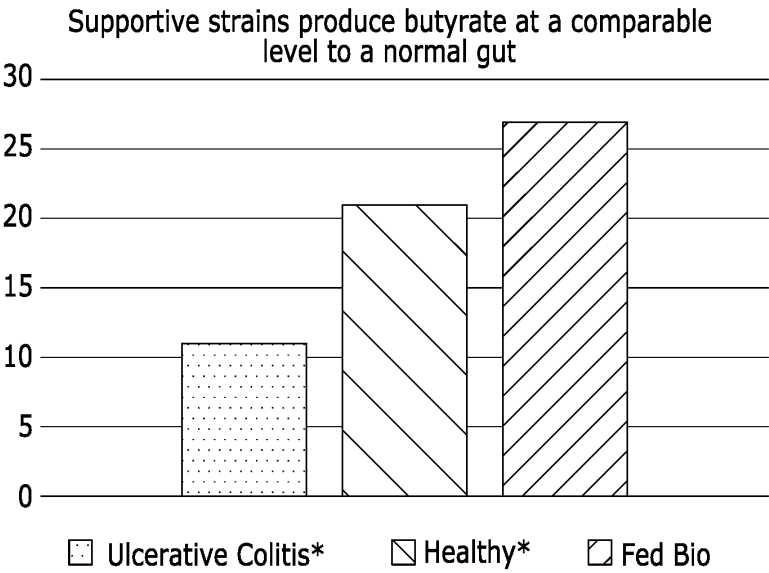


Figure 15A

FB-001 improves gut permeability in germ-free mice

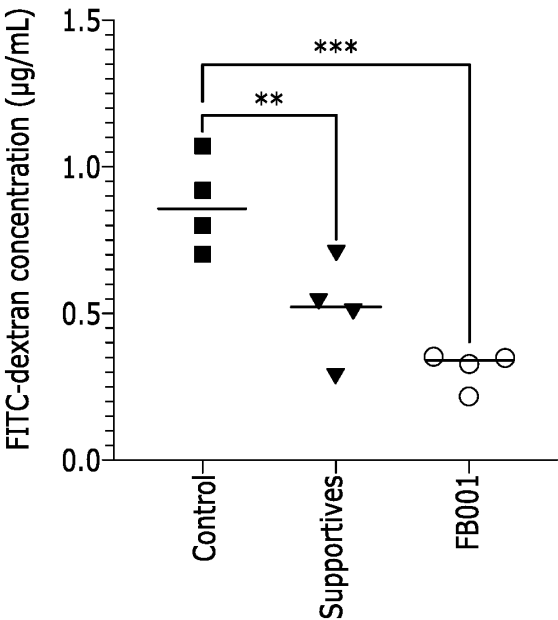
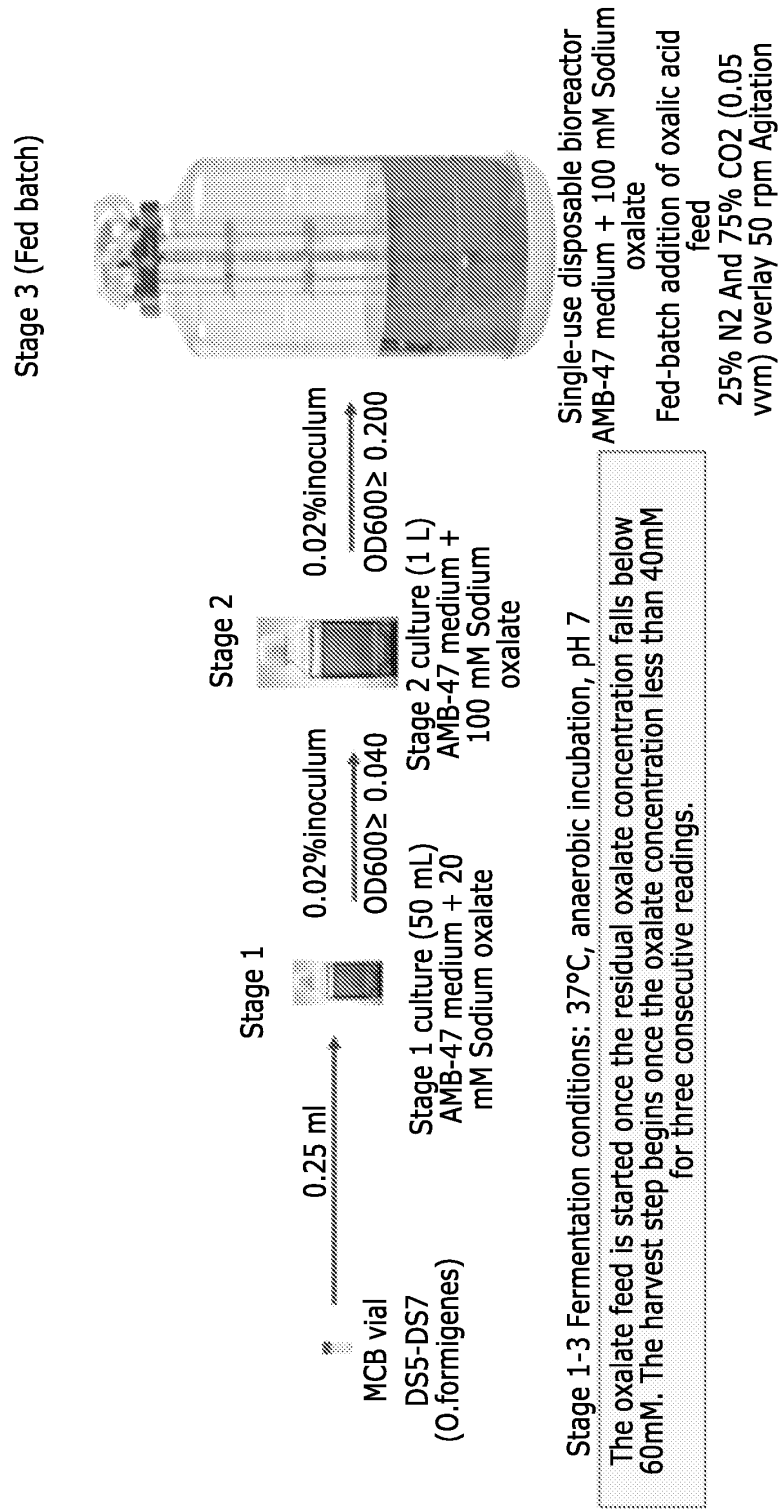


Figure 15B



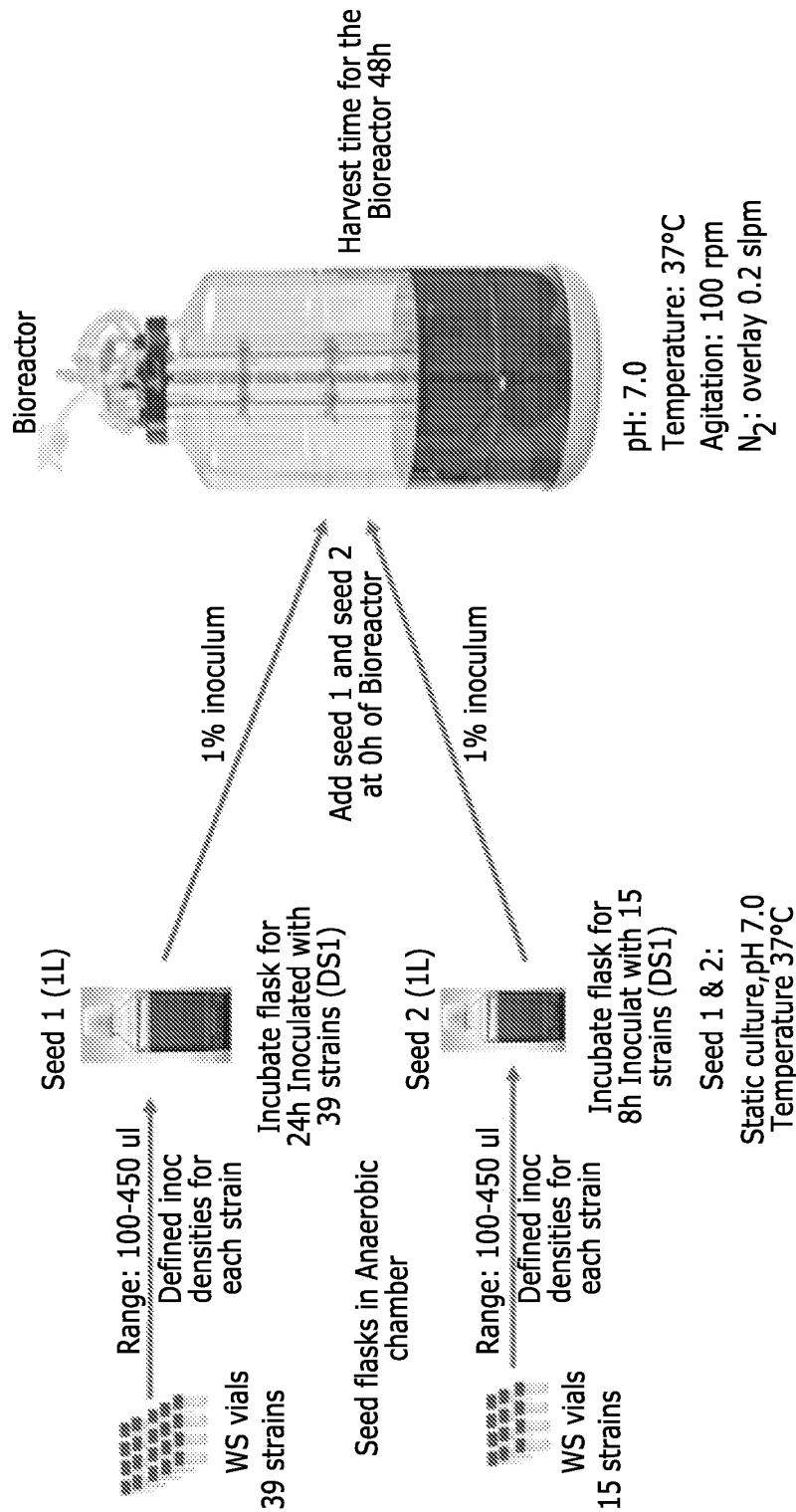


Figure 17

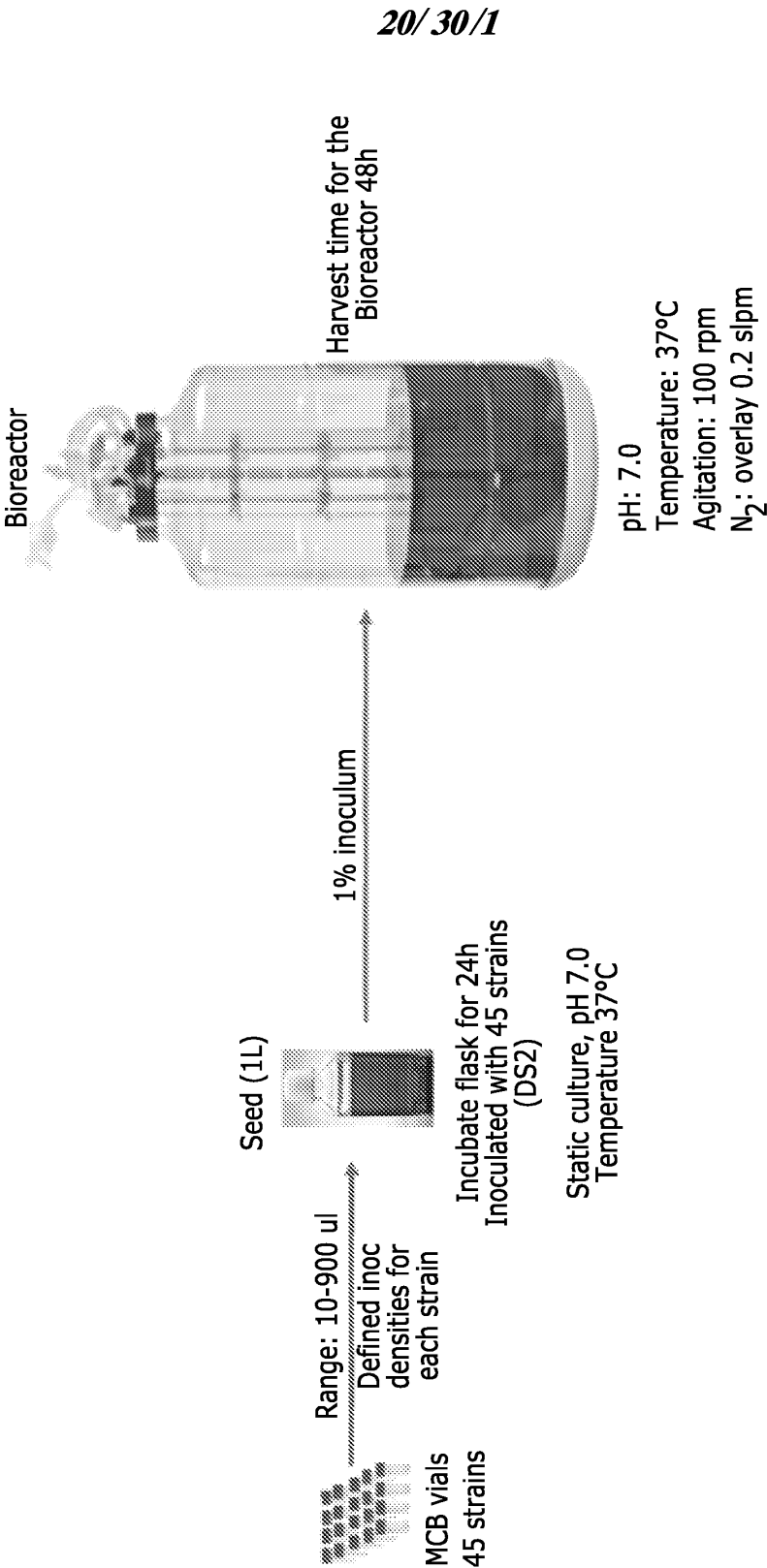


Figure 18

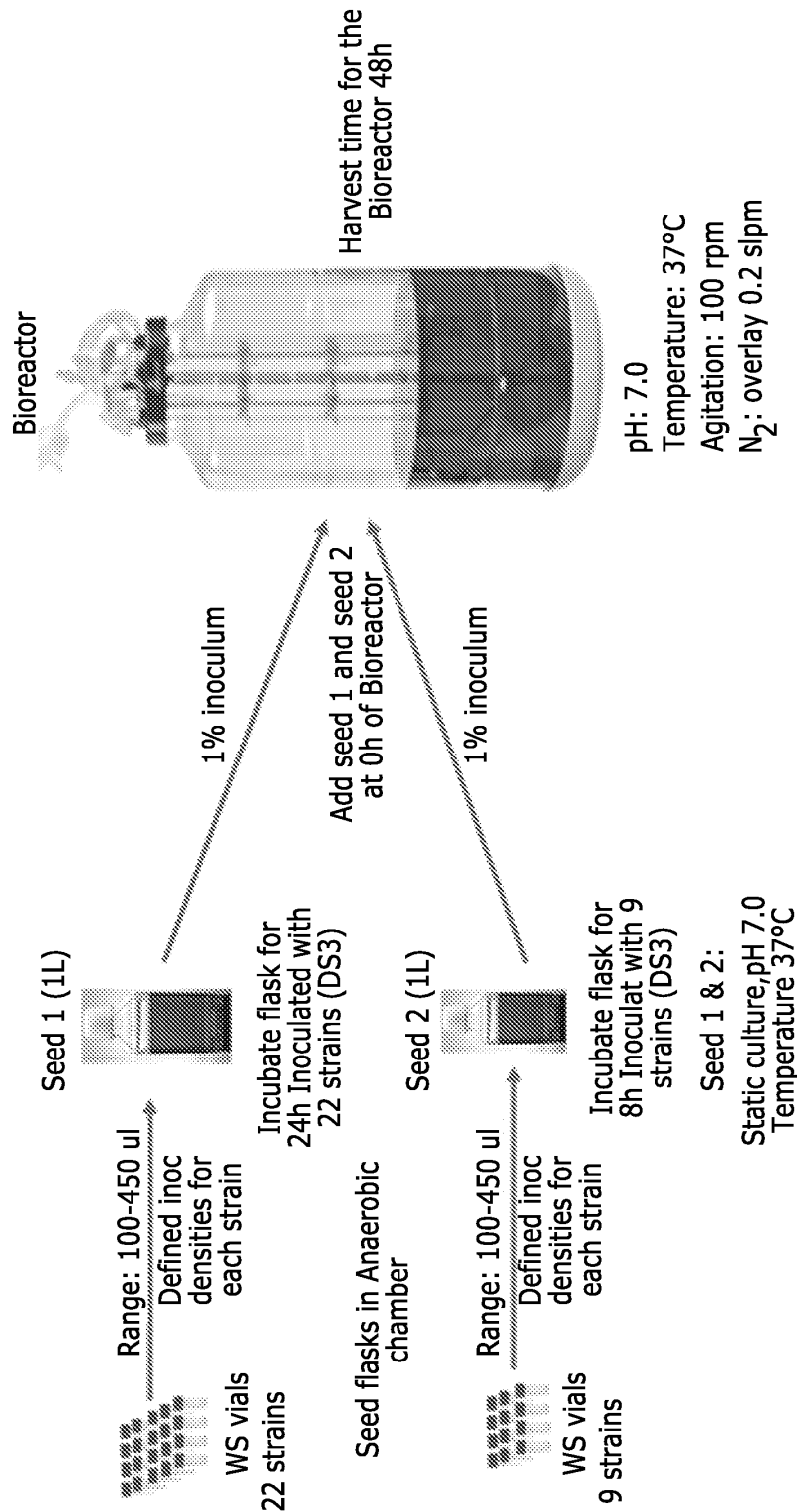


Figure 19

21/ 30/1

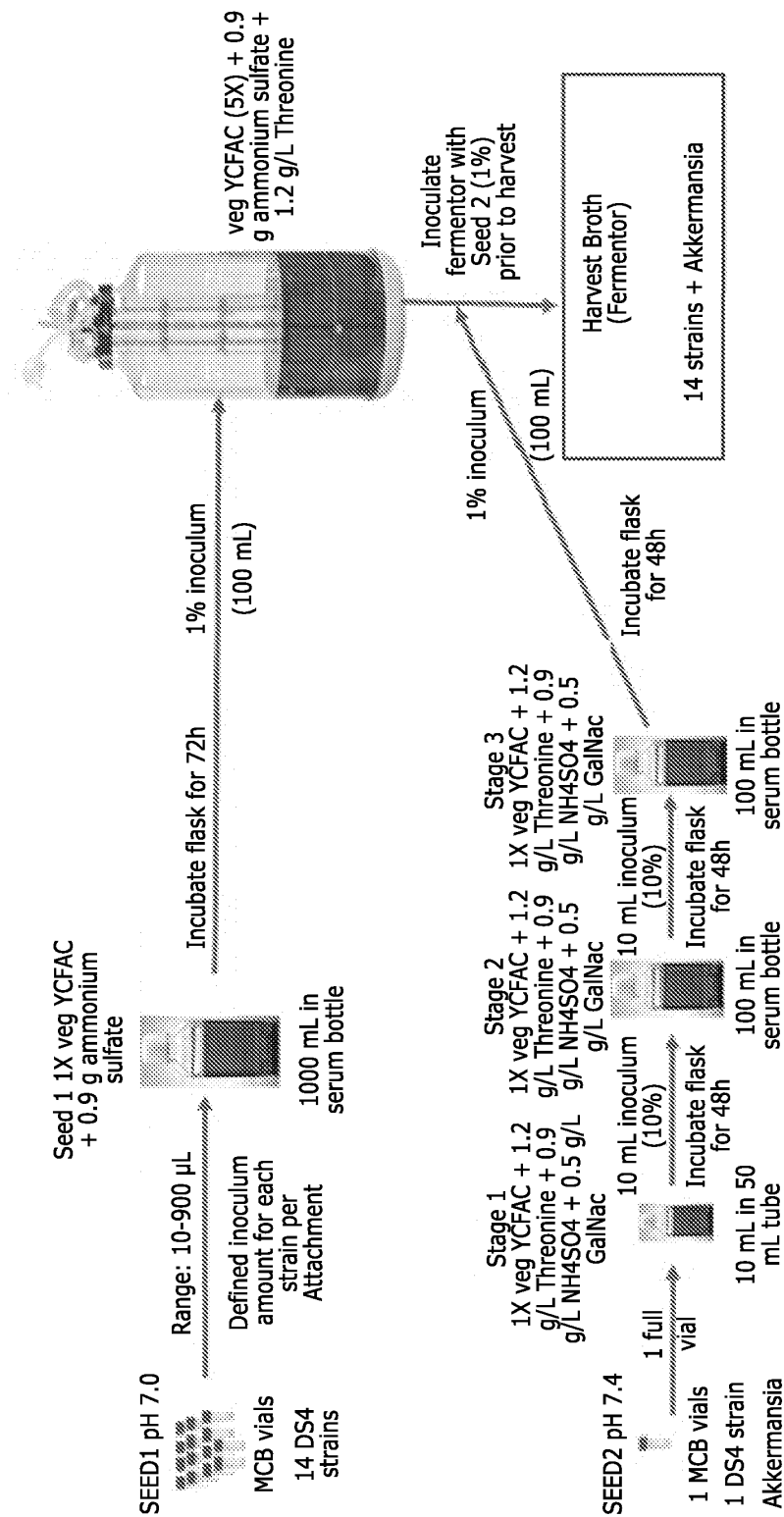


Figure 20

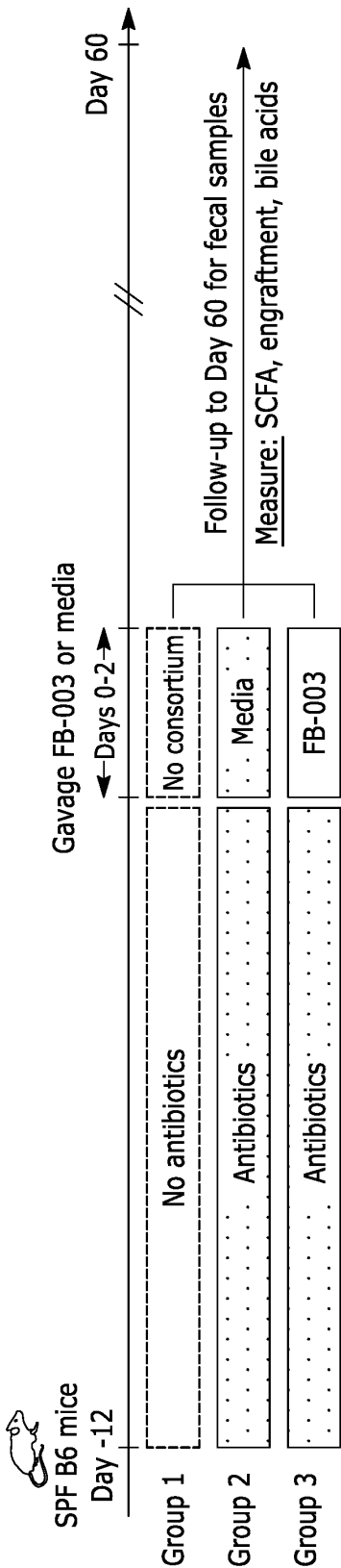


Figure 21A

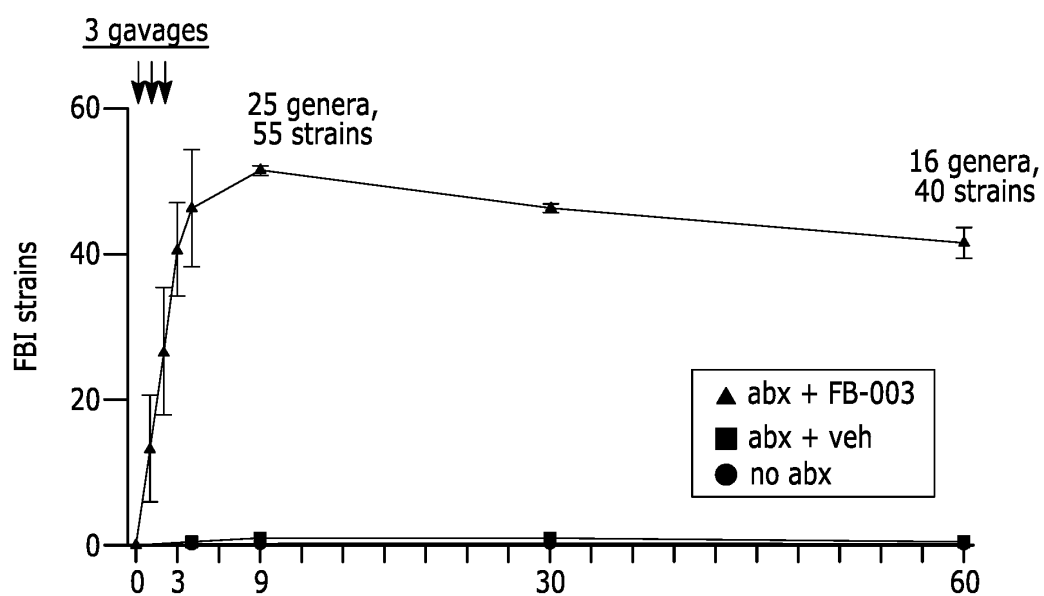
22/30/1

Figure 21B

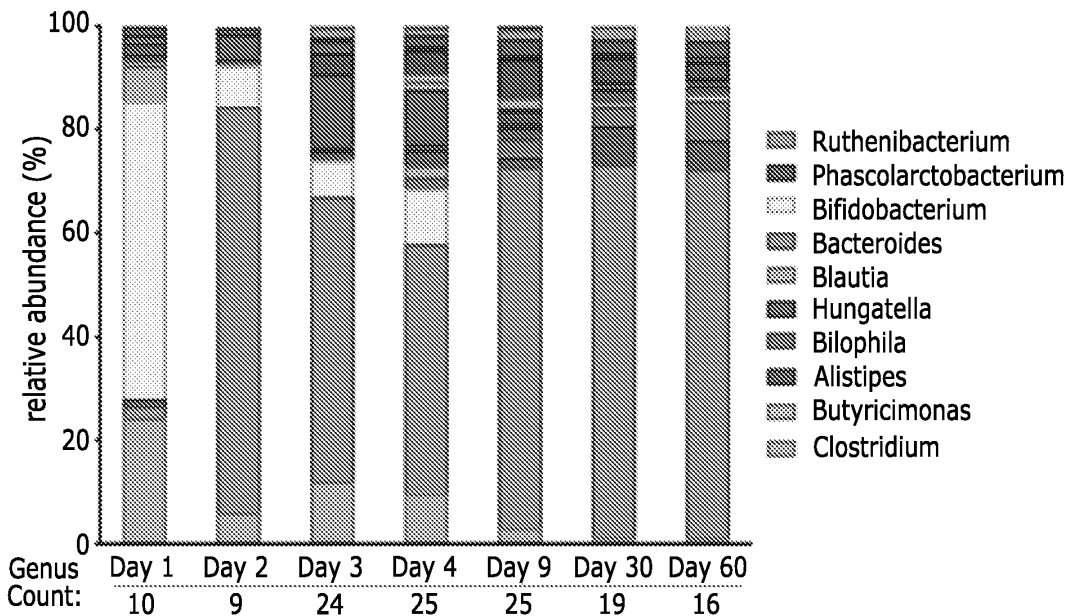


Figure 21C

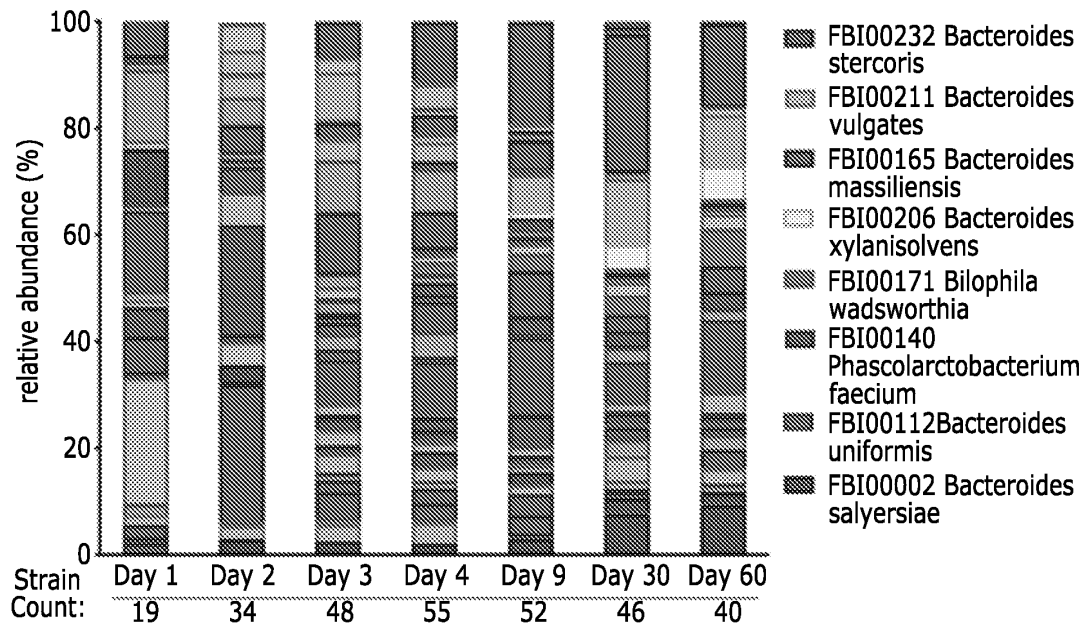


Figure 21D

24/30

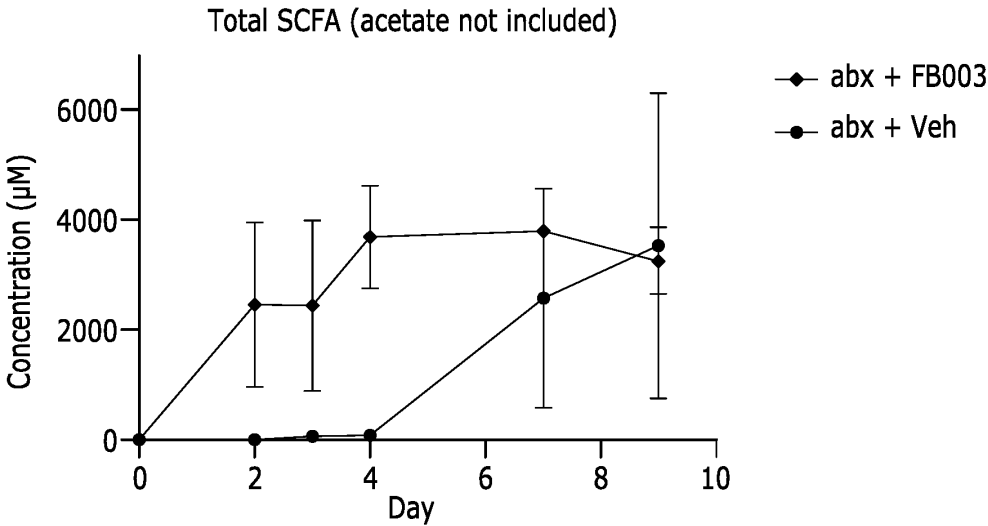


Figure 22A

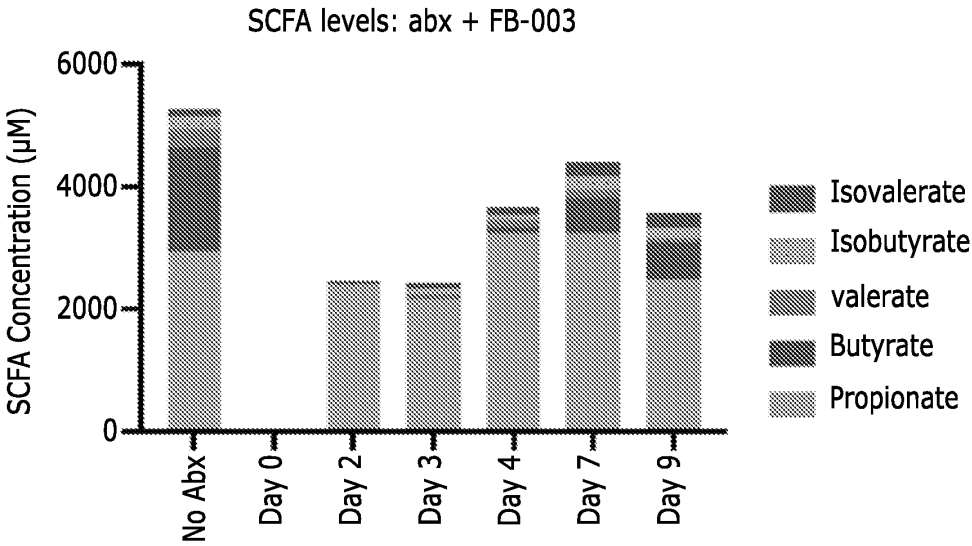


Figure 22B

24/30/1

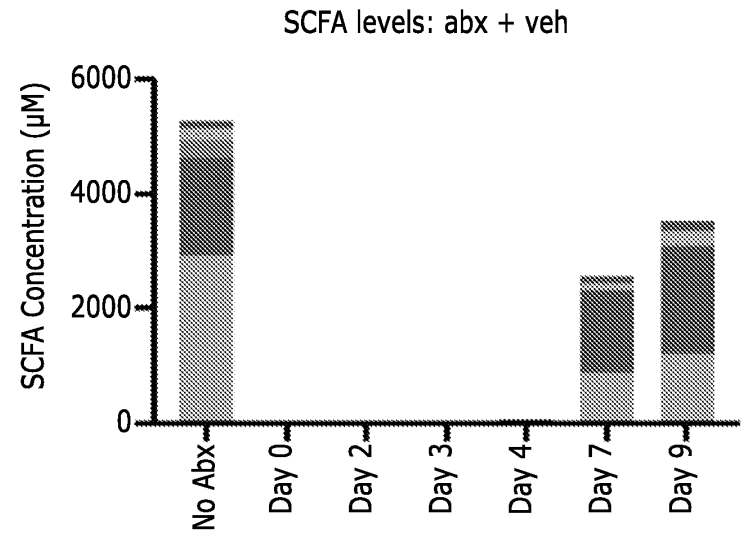


Figure 22C

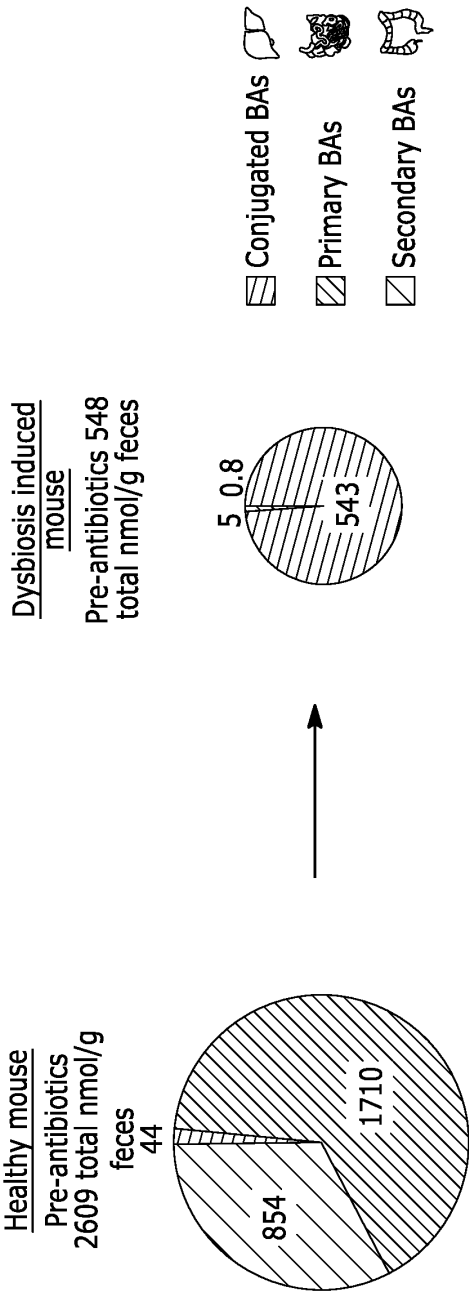


Figure 23A

25/ 30/1

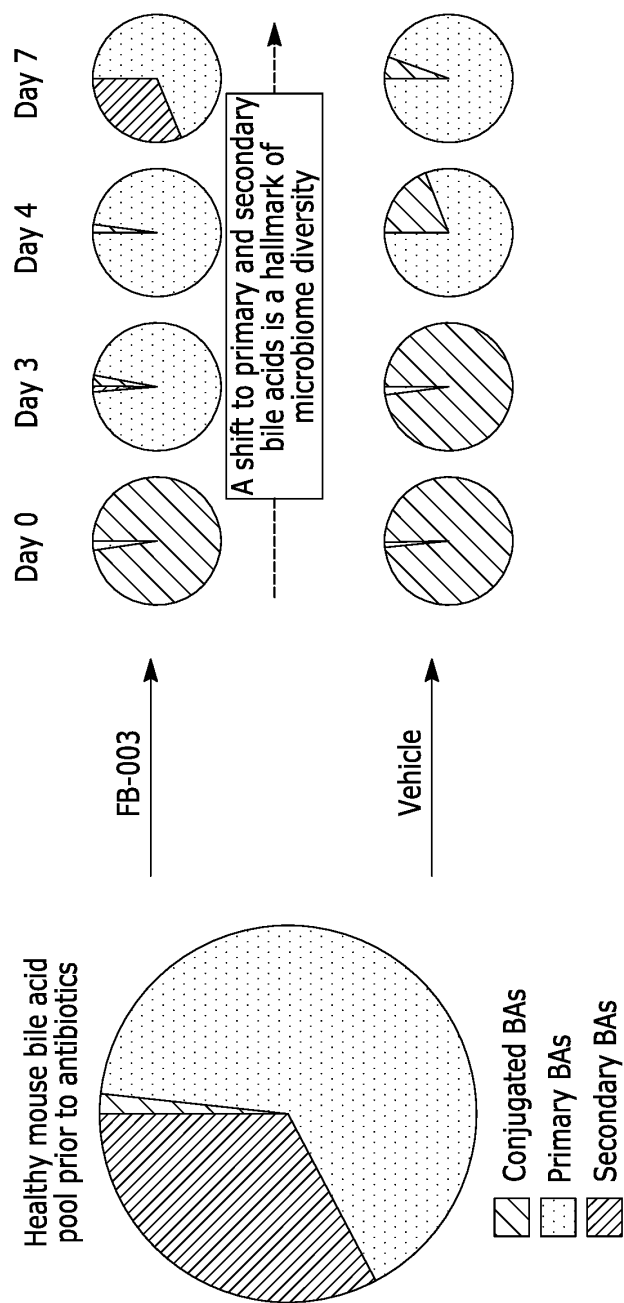


Figure 23B

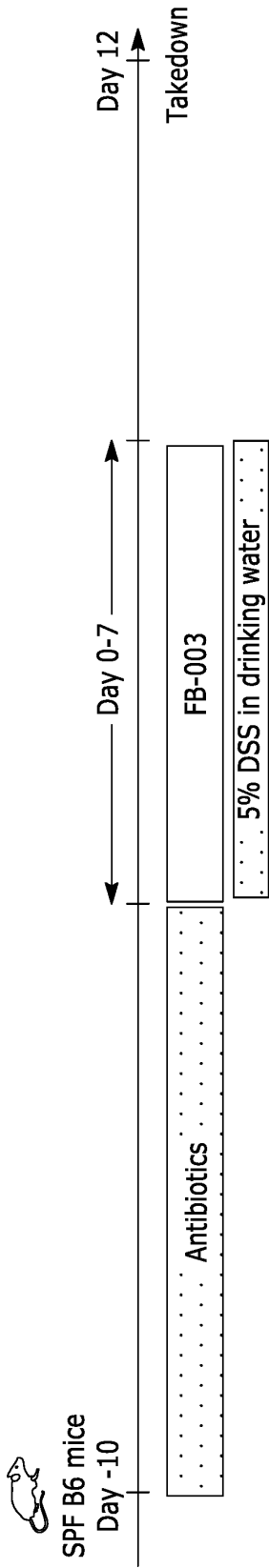


Figure 24A

Schedule	Data to be collected
Daily	Clinical scores, BW, fecal consistency, fecal blood
Day -10, 0, 7, 8, 10, 12	Collect feces for lipocalin-2 and/or nanostring/metagenomics
Day 7 and 12	Collect serum for cytokine analysis
Day 12	Colon length, colon sample for histopathology

Figure 24B

27/30

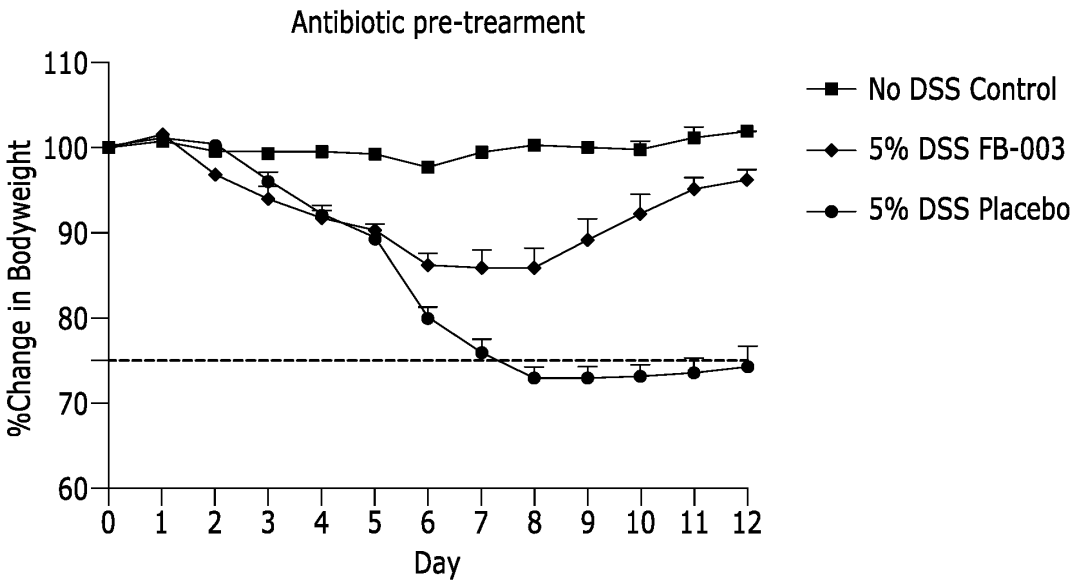


Figure 24C

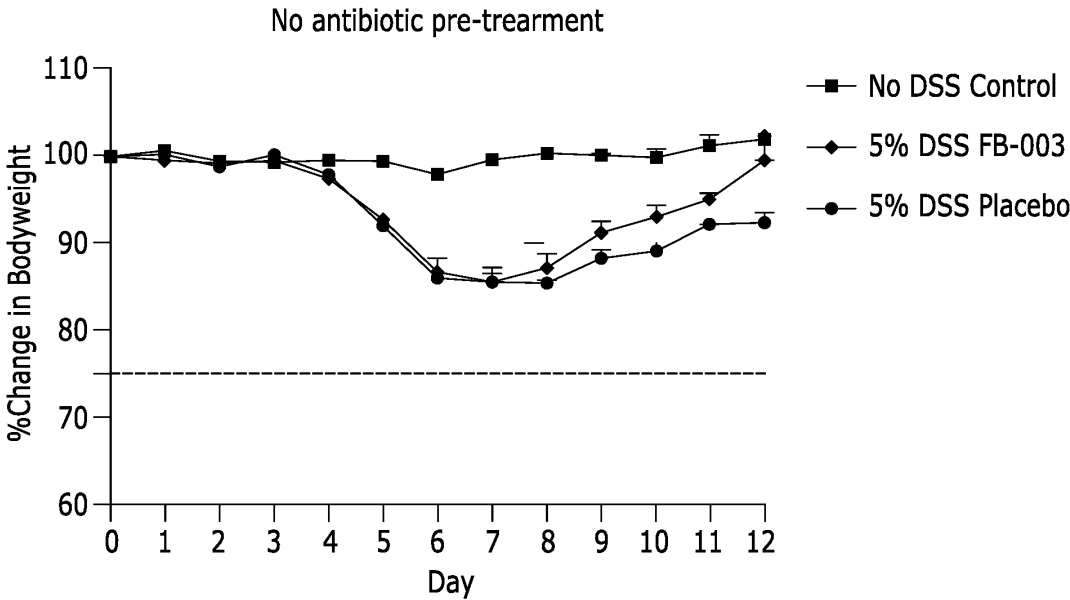


Figure 24D

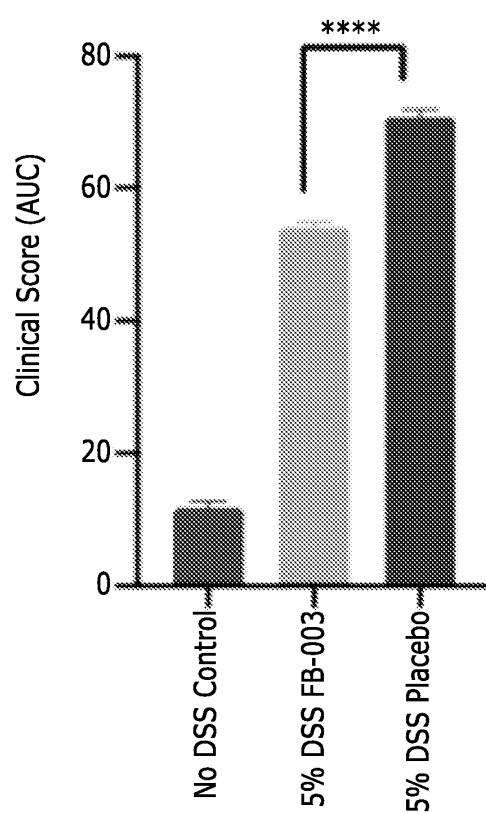
27/30/1

Figure 24E

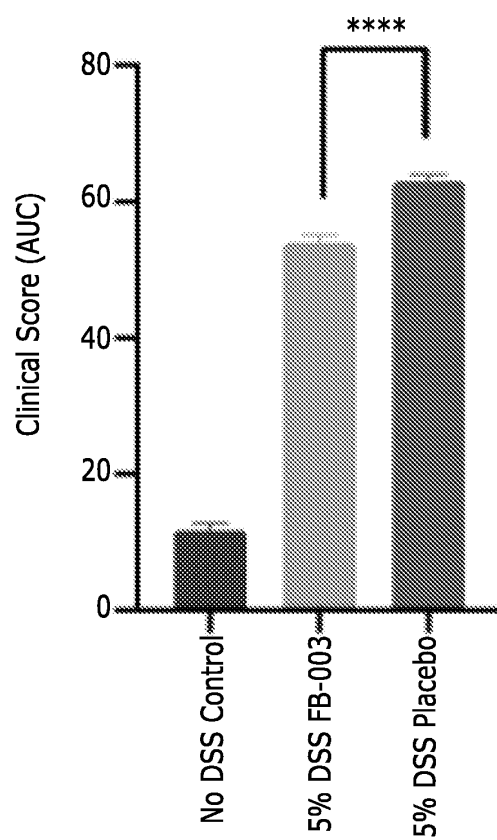
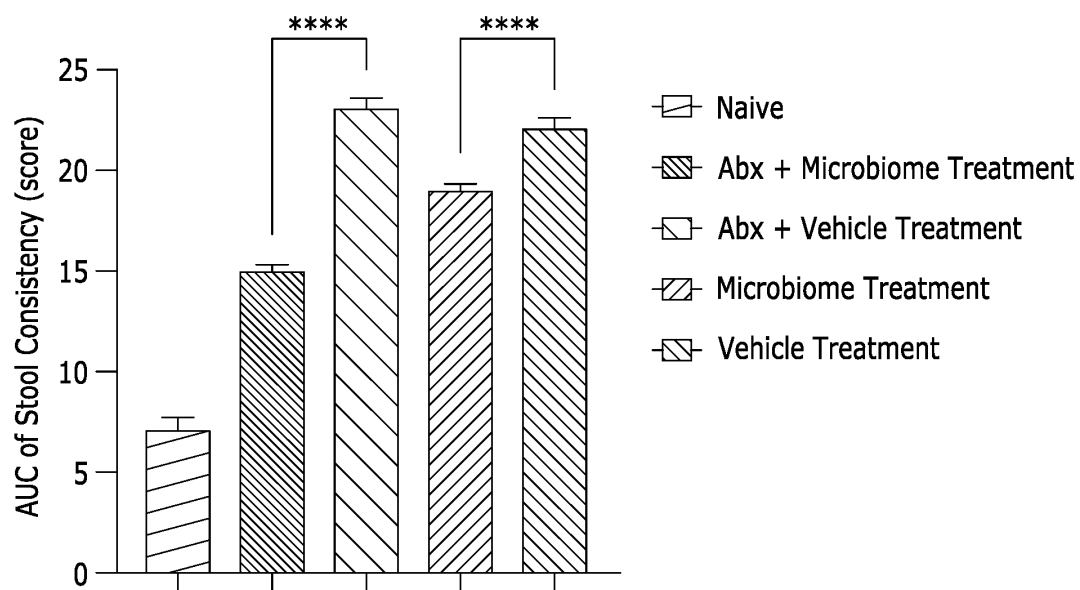
27/30/2

Figure 24F

27/30/3**Figure 24G**

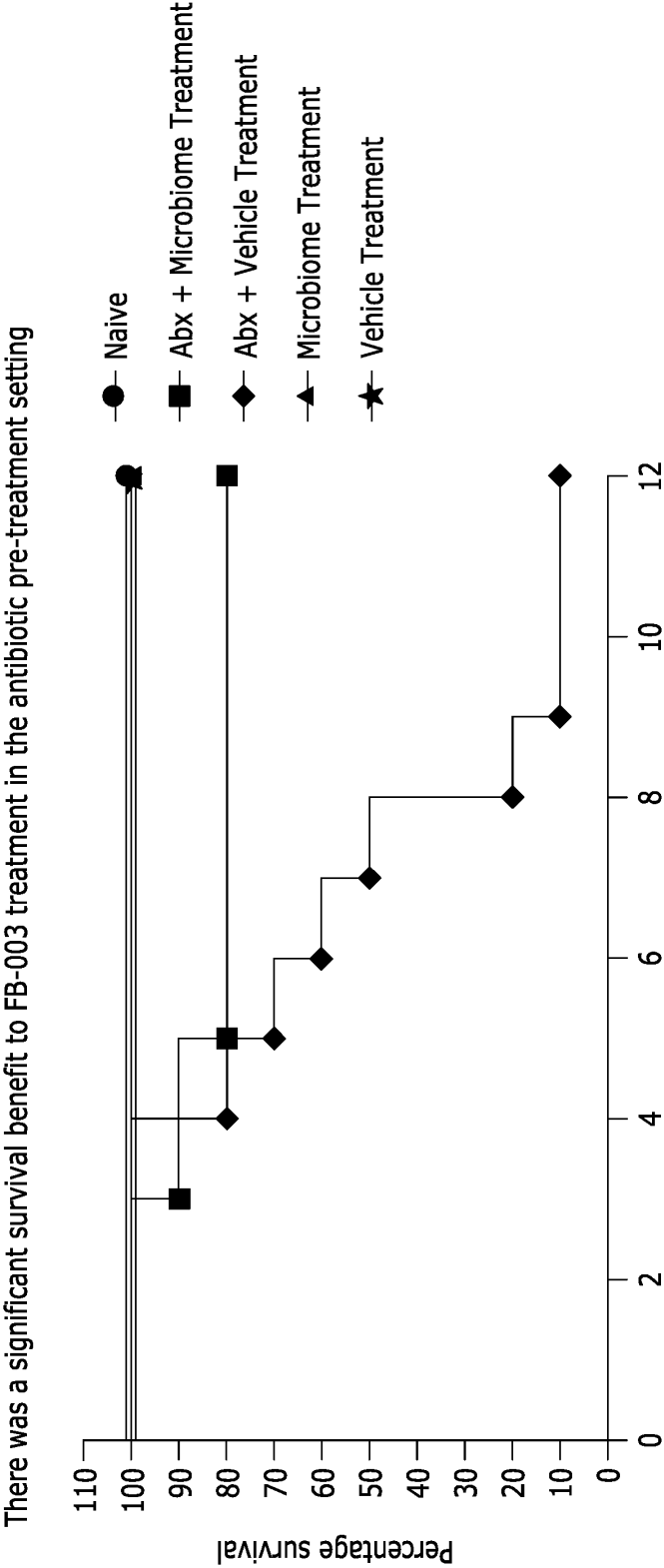


Figure 25

29/30

Species	
Anaerofustis stercorihominis	
Anaerostipes hadrus	
Bacteroides kribbi	
Bacteroides stercoris	
Bacteroides thetaiotaomicron	
Bacteroides vulgatus	
Bacteroides xylanisolvens	
Bifidobacterium adolescentis	
Bifidobacterium catenulatum	
Bifidobacterium dentinum	
Bifidobacterium longum	
Bifidobacterium pseudocatenulatum	
Balutia obeum	
Balutia wexlerae	
Butyricimonas faecihominis	
Clostridium bolteae	
Clostridium citroniae	
Clostridium scindens	
Collinsella aerofaciens	
Coprococcus comes	
Dorea formicigenerans	
Dorea longicatena	
Eggerthella lenta	
Emergencia timonensis	
Eubacterium eligens	
Eubacterium hallii	
Eubacterium ventriosum	
Hungatella hathewayi	
Parabacteroides distasonis	
Parabacteroides merdae	
Roseburia hominis	
Ruminococcus faecis	
Alistipes onderdonkii	
Alistipes senegalensis	
Alistipes shahii	
Alistipes timonensis	
Anaerotruncus massiliensis	
Bacteroides caccae	

Figure 26

29/30/1

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Figure 26 (Continued)

29/30/2

Species	
Bacteroides fragilis	
Bacteroides ovatus	
Bacteroides uniformis	
Bifidobacterium bifidum	
Bilophila wadsworthia	
Catabacter hongkongensis	
Clostridium aldenense	
Coprococcus eutactus	
Dielma fastidiosa	
Eubacterium rectale	
Eubacterium siraeum	
Faecalibacterium prausnitzii	
Gordonibacter pamelaiae	
Methanobrevibacter smithii	
Monoglobus pectinilycticus	
Paraprevotella clara	
Ruminococcus bromii	
Ruthenibacterium lactatiformans	
Sutterella wadsworthensis	
Akkermansia muciniphila	
Bacteroides massiliensis	
Dialister succinatiphilus	
Eubacterium xylanophilum	
Acidaminococcus intestini	
Bacteroides faecis	
Blautia faecis	
Blautia hydrogenotrophica	
Blautia massiliensis	
Eisenbergiella tayi	
Fusicatenibacter saccharivorans	
Megasphaera massiliensis	
Parasutterella excrementihominis	
Phascolarctobacterium faecium	
Ruminococcaceae sp. FBI00097	
Ruminococcaceae sp. FBI00223	
Sutterella massiliensis	
Alistipes putredinis	
Holdemanella bififormis	

Figure 26 (Continued)

29/30/3

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Figure 26 (Continued)

30/30

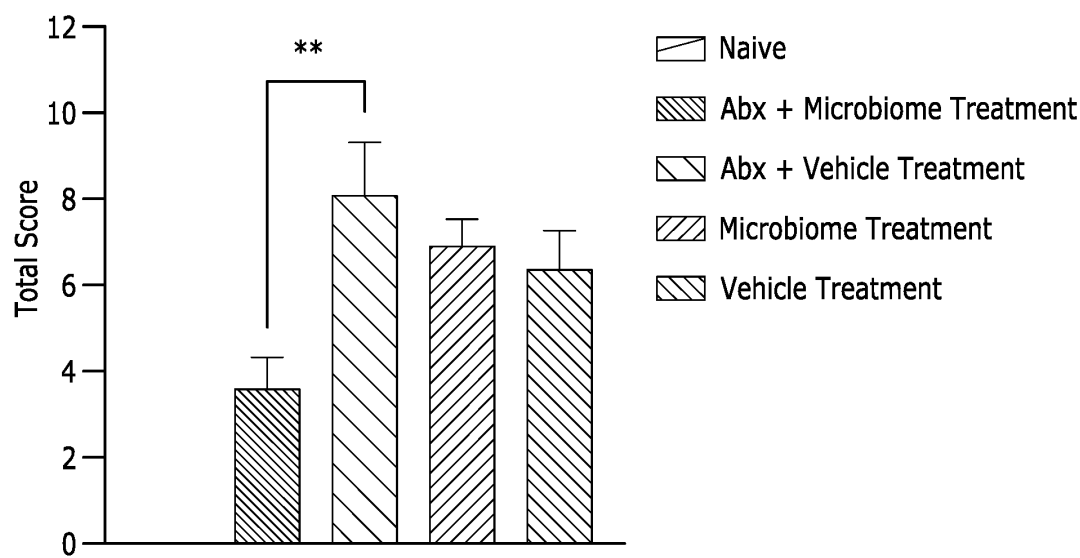


Figure 27A

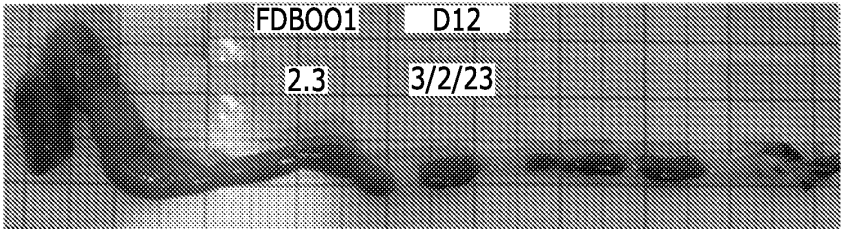


Figure 27B

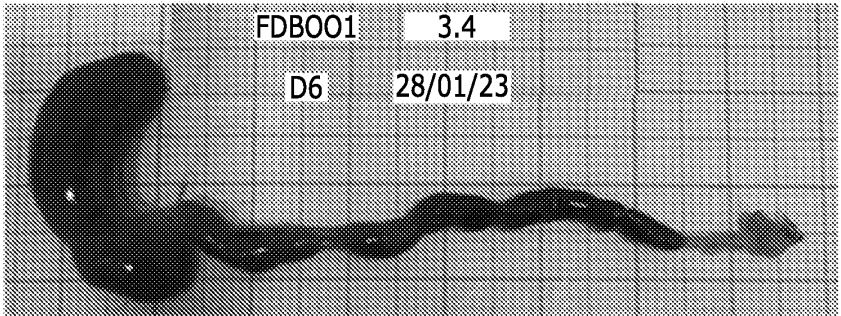


Figure 27C