



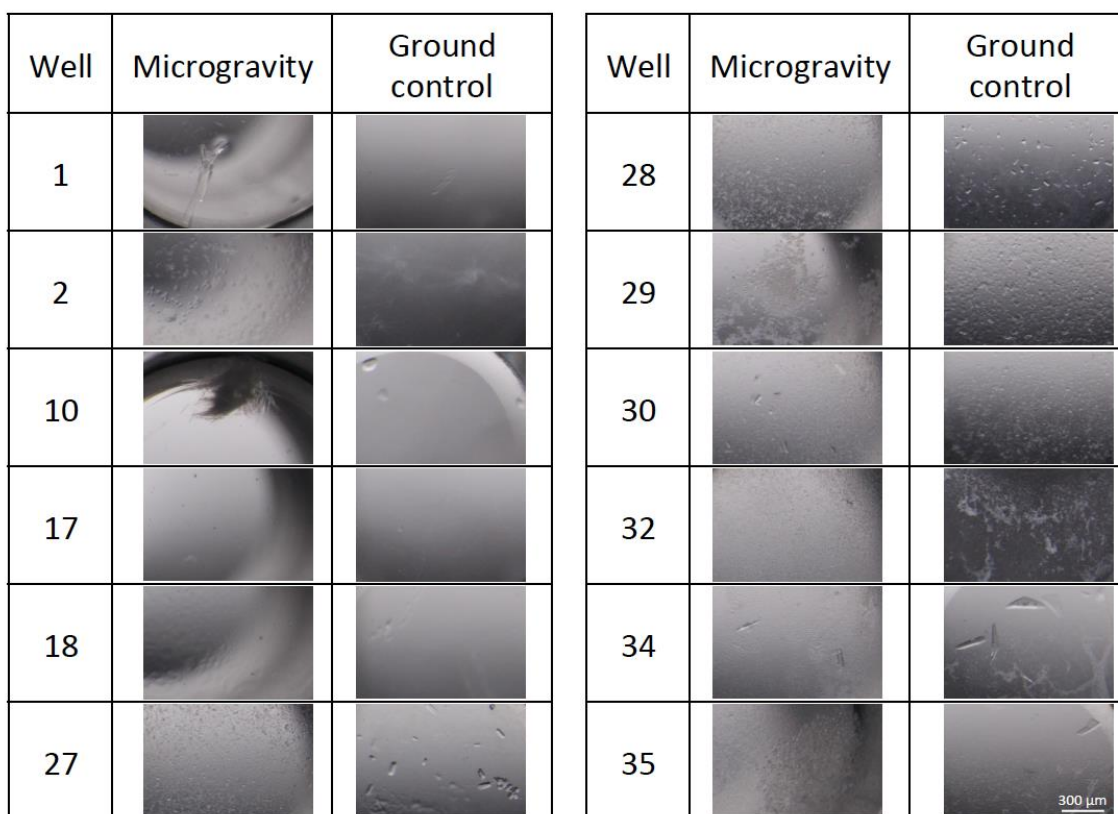
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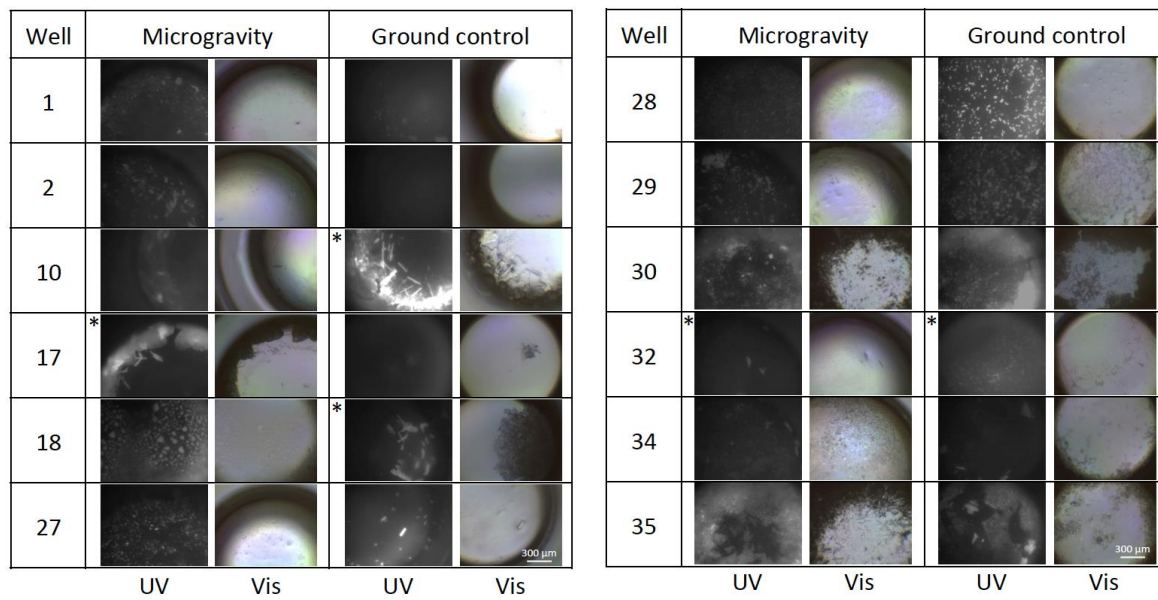
**Supporting information for article:**

**Comparative analysis of anti-polyglutamine Fab crystals grown on Earth and in microgravity**

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**Figure S1** Representative images taken using bright field microscopy immediately upon completion of experiment. Crystals were observed in wells 1, 2, 8, 10 (microgravity only), 27-30, and 34-35. Crystals were not observed in wells 17, 18, and 32 immediately upon completion of experiment, as shown in figure.



**Figure S2** Representative crystal images taken using UV microscopy ten months after completion of experiment. \*Crystals formed post-flight.

**Table S1** Initial conditions for all microgravity crystallization experiments.

Table S1.

Initial conditions for all microgravity crystallization experiments.

Well	Protein Name(s)	Protein Conc (mg/mL)	Crystallization solution
1	MW1 Fab	7	0.1 M Sodium citrate tribasic dihydrate, pH 5.5, 16% w/v PEG 8,000
2	MW1 Fab	7	0.1 M Sodium citrate tribasic dihydrate, pH 5.0, 18% w/v PEG 20,000
3	MW1 Fab	7	0.2 M Ammonium citrate tribasic, pH 7.0, 0.1 M Imidazole, pH 7.0, 20% w/v PEG MME 2,000
4	3B5H10 Fab	7	0.2 M Magnesium chloride hexahydrate, 0.1 M Sodium citrate tribasic dihydrate, pH 5.0, 10% w/v PEG 20,000
5	3B5H10 Fab	7	1.8 M Ammonium sulfate, 0.1 M BIS-TRIS, pH 6.5, 2% v/v PEG MME 550
6	3B5H10 Fab + K <sub>2</sub> Q <sub>10</sub> K <sub>2</sub>	7 + 7	1.8 M Ammonium sulfate, 0.1 M BIS-TRIS, pH 6.5, 2% v/v PEG MME 550
7	MW1 Fab + K <sub>2</sub> Q <sub>10</sub> K <sub>2</sub>	7 + 7	0.1 M Imidazole, pH 7.0, 30% w/v PEG MME 550
8	MW1 Fab + K <sub>2</sub> Q <sub>10</sub> K <sub>2</sub>	7 + 7	0.2 M Imidazole, pH 7.0, 28% w/v PEG MME 550
9	MW1 Fab + K <sub>2</sub> Q <sub>10</sub> K <sub>2</sub>	7 + 7	0.2 M Magnesium chloride hexahydrate, 0.1 M Sodium citrate tribasic dihydrate, pH 5.0, 10% w/v PEG 20,000
10	MW1 Fab + K <sub>2</sub> Q <sub>10</sub> K <sub>2</sub>	7 + 7	0.1 M Imidazole, pH 7.0, 12% w/v PEG 20,000
11	HD-16Q	5	0.1 M Tris-HCl, pH 8.5, 8% w/v PEG 8,000
12	HD-16Q	5	0.1 M Tris-HCl, pH 8.5, 8% w/v PEG 8,000
13	3B5H10 Fab + HD-16Q	7 + 7	0.2 M Magnesium chloride hexahydrate, 0.1 M Sodium citrate tribasic dihydrate, pH 5.0, 10% w/v PEG 20,000
14	3B5H10 Fab + HD-16Q	7 + 7	0.1 M Tris-HCl, pH 8.0, 30% v/v Jeffamine M-600, pH 7.0
15	3B5H10 Fab + HD-16Q	7 + 7	0.1 M Sodium acetate trihydrate, pH 4.0, 10% w/v PEG 4,000
16	3B5H10 Fab + HD-16Q	7 + 7	0.25 M Magnesium chloride hexahydrate, 0.1 M Sodium citrate tribasic dihydrate, pH 5.0, 15% w/v PEG 20,000
17	MW1 Fab + HD-16Q	7 + 7	0.2 M Magnesium chloride hexahydrate, 0.1 M Sodium citrate tribasic dihydrate, pH 5.0, 10% w/v PEG 20,000
18	MW1 Fab + HD-16Q	7 + 7	0.2 M Magnesium chloride hexahydrate, 0.1 M Sodium citrate tribasic dihydrate, pH 5.0, 18% w/v PEG 20,000
19	MW1 Fab + HD-16Q	7 + 7	0.1 M Imidazole, pH 7.0, 25% w/v PEG MME 550
20	MW1 Fab + HD-16Q	7 + 7	0.1 M Sodium citrate tribasic dihydrate, pH 5.0, 30% Jeffamine ED-2001 pH 7.0
21	MW1 Fab + HD-16Q	7 + 7	0.1 M BIS-TRIS, pH 6.5, 20% w/v PEG 1,500
22	MW1 Fab + HD-16Q	7 + 7	0.1 M Tris-HCl, pH 8.0, 28% w/v PEG 4,000
23	3B5H10 Fab + HD-39Q	7 + 2.3	0.1 M Sodium acetate trihydrate, pH 4.0, 15% w/v PEG 400
24	3B5H10 Fab + HD-39Q	7 + 2.3	0.1 M Sodium acetate trihydrate, pH 4.0, 15% w/v PEG 400
25	3B5H10 Fab + HD-39Q	7 + 2.3	0.1 M Sodium citrate tribasic dihydrate, pH 5.0, 18% w/v PEG 20,000
26	3B5H10 Fab + HD-39Q	7 + 2.3	0.1 M Sodium citrate tribasic dihydrate, pH 5.0, 18% w/v PEG 20,000
27	MW1 Fab + HD-39Q	7 + 2.3	0.1 M Sodium acetate trihydrate, pH 4.5, 30% w/v PEG 300
28	MW1 Fab + HD-39Q	7 + 2.3	0.1 M Sodium acetate trihydrate, pH 4.5, 30% w/v PEG 300
29	MW1 Fab + HD-39Q	7 + 2.3	1.8 M Ammonium sulfate, 0.1 M BIS-TRIS, pH 6.5, 2% v/v PEG MME 550
30	MW1 Fab + HD-39Q	7 + 2.3	0.2 M Magnesium formate dihydrate, 0.1 M Sodium acetate trihydrate, pH 4.0, 18% w/v PEG MME 5,000
31	MW1 Fab + HD-39Q	7 + 2.3	0.1 M Sodium citrate tribasic dihydrate, pH 5.5, 18% w/v PEG 3,350
32	MW1 Fab + HD-39Q	7 + 2.3	0.1 M Sodium citrate tribasic dihydrate, pH 5.5, 16% w/v PEG 8,000
33	MW1 Fab + HD-39Q	7 + 2.3	2% w/v 1,4-Dioxane, 0.1 M Tris-HCl, pH 8.0, 15% PEG 3,350
34	MW1 Fab + HD-39Q	7 + 2.3	0.2 M Magnesium chloride hexahydrate, 0.1 M Sodium citrate tribasic dihydrate, pH 5.0, 14% w/v PEG 20,000
35	MW1 Fab + HD-39Q	7 + 2.3	0.2 M Magnesium chloride hexahydrate, 0.1 M Sodium citrate tribasic dihydrate, pH 5.0, 18% w/v PEG 20,000
36	MW1 Fab + HD-39Q	7 + 2.3	0.4 M Sodium malonate, pH 6.0, 0.1 M MES monohydrate, pH 6.0, 0.5% w/v PEG 10,000
37	HD-16Q	10	0.2 M Ammonium acetate, 0.1 M Sodium citrate tribasic dihydrate, pH 5.5, 30% w/v PEG 4,000
38	HD-16Q	10	0.2 M Magnesium acetate tetrahydrate, 0.1 M Sodium cacodylate trihydrate, pH 6.5, 20% w/v PEG 8,000
39	HD-16Q	10	0.5 M Ammonium sulfate, 0.1 M Sodium citrate tribasic dihydrate, pH 5.6, 1.0 M Lithium sulfate monohydrate
40	HD-16Q	10	0.2 M Magnesium chloride hexahydrate, 0.1 M Tris-HCl, pH 8.5, 25% w/v PEG 3,350
41	HD-25Q	10	0.01 M Nickel (II) chloride hexahydrate, 0.1 M Tris-HCl, pH 8.5, 20% w/v PEG MME 2,000
42	HD-25Q	10	0.01 M Nickel (II) chloride hexahydrate, 0.1 M Tris-HCl, pH 8.5, 1.0 M Lithium sulfate monohydrate
43	HD-25Q	10	1.0 M Imidazole, pH 7.0
44	HD-25Q	10	0.1 M BIS-TRIS, pH 6.5, 20% w/v PEG MME 5,000
45	HD-39Q	10	0.01 M Iron (III) chloride hexahydrate, 0.1 M Sodium citrate tribasic dihydrate, pH 5.6, 10% Jeffamine M-600
46	HD-39Q	10	1.0 M Imidazole, pH 7.0
47	HD-46Q	10	0.2 M Calcium acetate hydrate, 0.1 M Sodium cacodylate trihydrate, pH 6.5, 18% w/v PEG 8,000
48	HD-46Q	10	0.5 M Sodium chloride, 0.01 M Magnesium chloride hexahydrate, 0.01 M Hexadecyltrimethylammonium bromide
49	HTT-GFP	20	0.2 M Zinc acetate dihydrate, 0.1 M Sodium cacodylate trihydrate, pH 6.5, 18% w/v PEG 8,000
50	HTT-GFP	20	0.2 M Zinc acetate dihydrate, 0.1 M Sodium cacodylate trihydrate, pH 6.5, 18% w/v PEG 8,000
51	HTT-GFP	20	0.2 M Zinc acetate dihydrate, 0.1 M Sodium cacodylate trihydrate, pH 6.5, 18% w/v PEG 8,000
52	HTT-GFP	20	0.2 M Lithium sulfate monohydrate, 0.1 M HEPES, pH 6.5, 25% w/v PEG 3,350
53	HTT-GFP	20	0.2 M Lithium sulfate monohydrate, 0.1 M HEPES, pH 6.5, 25% w/v PEG 3,350
54	HTT-GFP	20	0.2 M Lithium sulfate monohydrate, 0.1 M HEPES, pH 6.5, 25% w/v PEG 3,350
55	FL-HTT	0.4	0.1 M Sodium cacodylate trihydrate, pH 6.5, 25% w/v PEG 8000
56	FL-HTT	0.4	0.1 M Sodium cacodylate trihydrate, pH 6.5, 25% w/v PEG 8000
57	FL-HTT	0.4	2.4 M Ammonium sulfate, 0.1 M Sodium acetate trihydrate, pH 4.5
58	FL-HTT	0.4	2.4 M Ammonium sulfate, 0.1 M Sodium acetate trihydrate, pH 4.5
59	FL-HTT	0.4	2.4 M Ammonium sulfate, 0.1 M Sodium cacodylate trihydrate, pH 6.5
60	FL-HTT	0.4	2.4 M Ammonium sulfate, 0.1 M Sodium cacodylate trihydrate, pH 6.5

**Table S2** Crystal morphology.

Table S2.

Crystal morphology

<b>Environment of crystals</b>	<b>Well</b>	<b>Morphology</b>
Microgravity	1	3D
Microgravity	2	Irregular
Microgravity	8	Needle
Microgravity	10	Needle
Microgravity	17	Grew post-flight
Microgravity	27	3D
Microgravity	28	3D
Microgravity	29	3D
Microgravity	30	3D
Microgravity	32	Grew post-flight
Microgravity	34	3D
Microgravity	35	3D
Ground control	1	Irregular
Ground control	2	Needle
Ground control	8	Irregular
Ground control	10	Grew post-flight
Ground control	18	Grew post-flight
Ground control	27	3D
Ground control	28	3D
Ground control	29	3D
Ground control	30	3D microcrystals
Ground control	32	Grew post-flight
Ground control	34	3D
Ground control	35	3D