The green tea polyphenol Epigallocatechin-Gallate (EGCG) interferes with microcin E492 amyloid formation

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SUPPLEMENTARY MATERIAL

Contents:

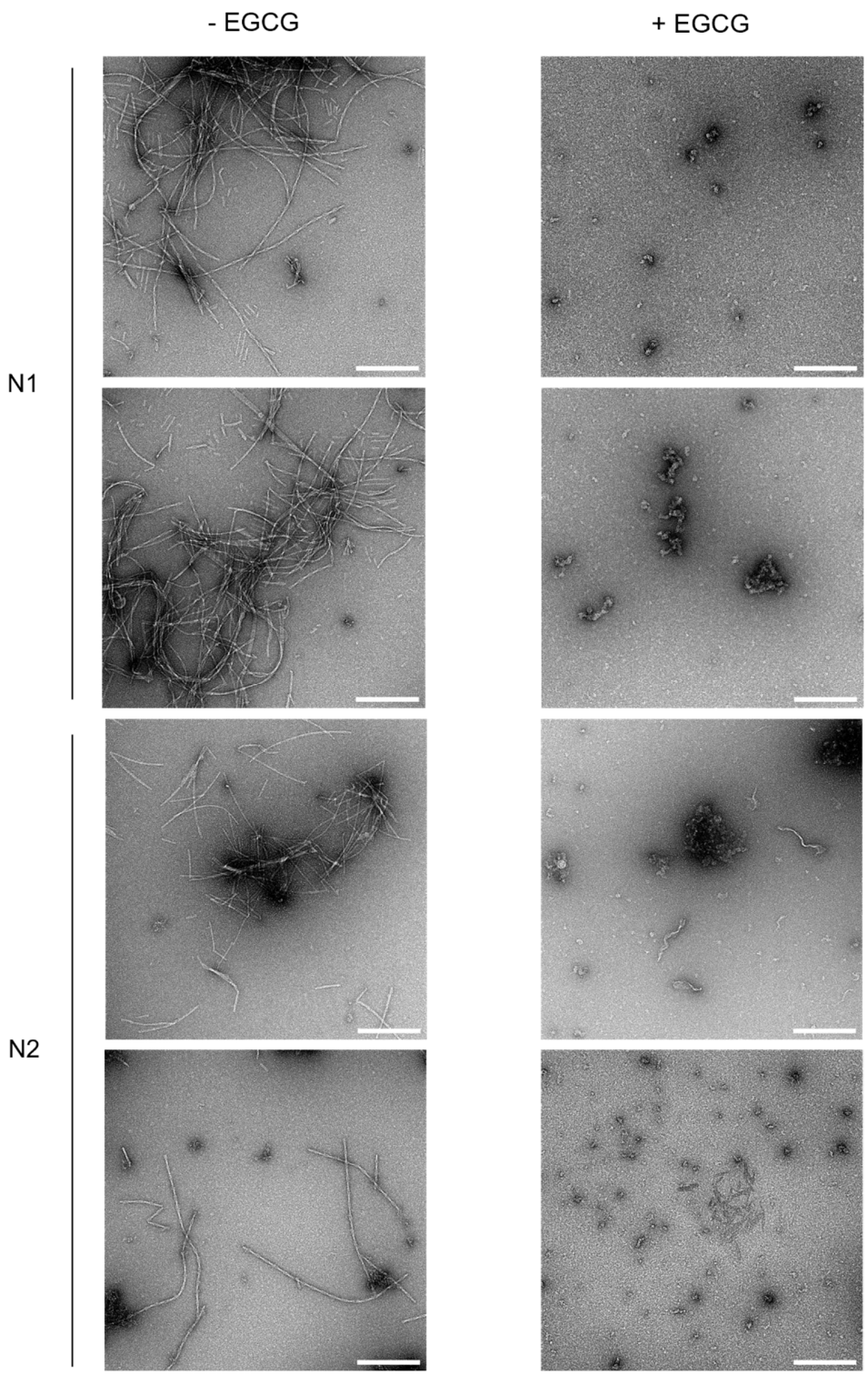

Figure S1. Visualization of MccE492 fibers in presence and absence of EGCG. Several fields of negative-stain electron microscopy images show the effect of EGCG in the formation of amyloid fibers after 48 h in PIPES aggregation buffer. These images correspond to two independent experiments (N1 and N2). Scale bar: 200 nm.

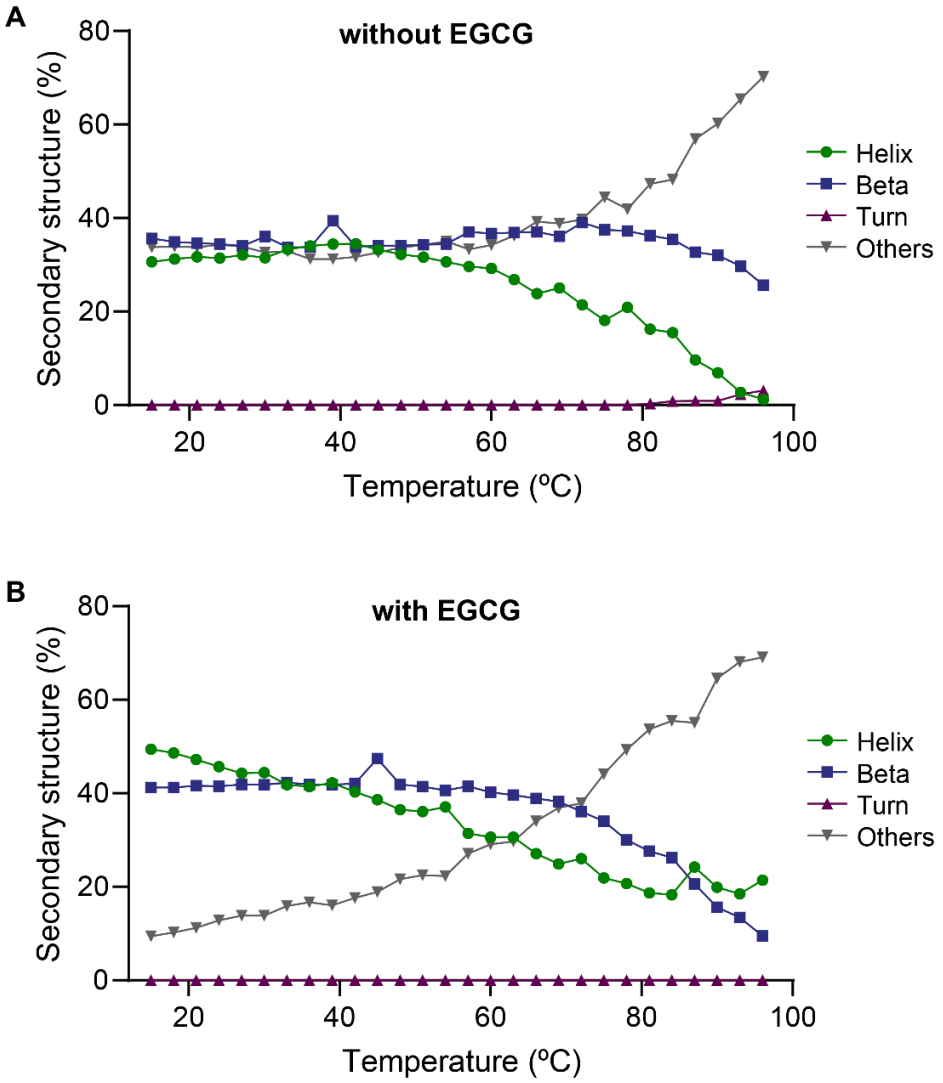

Figure S2. MccE492 secondary structure content at different temperatures in the absence (A) or presence (B) of EGCG determined using the BestSel software.

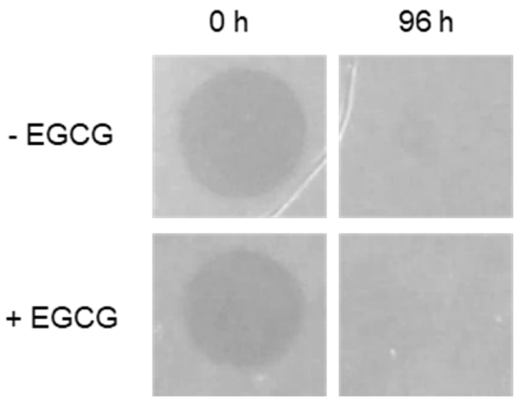

Figure S3. MccE492 antibacterial activity in the presence or absence of EGCG. Three µL of the samples from the MccE492 aggregation assays in PIPES buffer were seeded onto a lawn of sensitive *E. coli* strain. The formation of growth inhibition halos denotes MccE492 antibacterial activity.

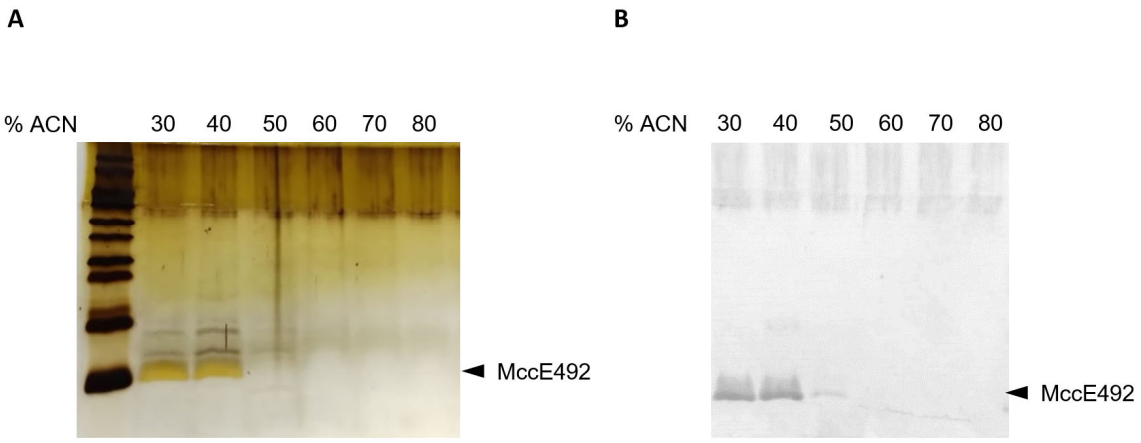

Figure S4. Acetonitrile (ACN)-gradient fractions obtained after a typical MccE492 purification. The ACN fractions recovered after the purifications were checked by SDS-PAGE and silver-staining **(A)**, and Western blot **(B).**

Table S1. Secondary structure content of MccE492 amyloid at different temperatures in the absence of 1 mM EGCG.

Temperature (°C)	Helix		β-strand				Turn	Others	NRMSD
	Helix1	Helix2	Anti1	Anti2	Anti3	Para			
15	19.1	11.5	0.0	0.0	0.0	35.6	0.0	33.8	0.06929
18	18.8	12.4	0.0	0.0	0.0	34.9	0.0	33.9	0.07098
21	19.1	12.6	0.0	0.0	0.0	34.6	0.0	33.8	0.07102
24	19.1	12.3	0.0	0.0	0.0	34.4	0.0	34.3	0.07417
27	19.3	12.8	0.0	0.0	0.0	34.0	0.0	33.9	0.07579
30	18.4	13.1	0.0	0.0	2.2	33.8	0.0	32.6	0.07670
33	19.6	13.7	0.0	0.0	0.0	33.8	0.0	32.9	0.07399
36	20.0	14.0	0.0	0.0	0.0	33.8	0.0	32.2	0.07806
39	20.5	13.9	0.0	0.0	2.5	31.9	0.0	31.2	0.07726
42	20.6	13.9	0.0	0.0	2.0	31.9	0.0	31.7	0.07382
45	19.5	13.7	0.0	0.0	0.9	33.2	0.0	32.6	0.07647
48	18.3	13.7	0.0	0.0	0.4	33.7	0.0	33.7	0.07241
51	18.2	13.4	0.0	0.0	1.0	33.3	0.0	34.2	0.07667
54	17.3	13.3	0.0	0.0	2.4	32.0	0.0	35.0	0.07372
57	16.4	13.2	0.0	0.0	4.9	32.1	0.0	33.3	0.06603
60	16.0	13.2	0.0	0.0	4.5	32.2	0.0	34.2	0.06598
63	14.4	12.4	0.0	0.0	1.8	35.1	0.0	36.2	0.06676
66	12.4	11.4	0.0	0.0	3.4	33.6	0.0	39.2	0.06645
69	12.9	12.1	0.0	0.0	2.2	33.9	0.0	38.8	0.06910
72	11.7	9.7	0.0	0.0	4.2	34.8	0.0	39.7	0.06416
75	9.8	8.3	0.0	0.0	3.2	34.3	0.0	44.4	0.06882
78	10.5	10.4	0.0	0.0	3.7	33.5	0.0	41.9	0.06850
81	7.8	8.4	0.0	0.0	2.5	33.7	0.3	47.3	0.06921
84	7.1	8.4	0.0	0.0	3.1	32.3	0.8	48.2	0.07211
87	3.8	5.8	0.0	0.0	0.0	32.7	0.9	56.9	0.07820
90	2.3	4.6	0.0	0.0	3.4	28.6	0.9	60.2	0.08155
93	0.3	2.4	0.0	0.0	1.5	28.2	2.3	65.4	0.07661
96	0.0	1.2	0.0	0.0	0.0	25.6	3.1	70.2	0.09442

Table S2. Secondary structure content of MccE492 amyloid at different temperatures in the presence of 1 mM EGCG.

Temperature (°C)	Helix		β-strand				Turn	Others	NRMSD
	Helix1	Helix2	Anti1	Anti2	Anti3	Para			
15	39.0	10.4	0.0	0.0	0.0	41.2	0.0	9.4	0.09809
18	36.7	11.9	0.0	0.0	0.0	41.2	0.0	10.2	0.09928
21	35.4	11.8	0.0	0.0	0.0	41.6	0.0	11.2	0.09880
24	34.2	11.5	0.0	0.0	0.0	41.5	0.0	12.8	0.10016
27	32.0	12.3	0.0	0.0	0.0	41.9	0.0	13.8	0.09680
30	32.8	11.6	0.0	0.0	0.0	41.8	0.0	13.8	0.10406
33	30.1	11.7	0.0	0.0	0.0	42.3	0.0	15.9	0.10098
36	29.3	12.1	0.0	0.0	0.0	41.9	0.0	16.7	0.10351
39	30.7	11.5	0.0	0.0	0.0	41.8	0.0	16.0	0.10203
42	28.6	11.7	0.0	0.0	0.0	42.1	0.0	17.6	0.10003
45	27.0	11.6	0.0	0.0	0.0	42.4	0.0	18.9	0.09940
48	24.8	11.7	0.0	0.0	0.0	41.9	0.0	21.6	0.09985
51	24.7	11.4	0.0	0.0	0.0	41.4	0.0	22.5	0.09649
54	26.3	10.8	0.0	0.0	0.0	40.6	0.0	22.3	0.09696
57	21.4	10.0	0.0	0.0	0.0	41.5	0.0	27.1	0.09747
60	21.0	9.6	0.0	0.0	0.0	40.2	0.0	29.1	0.09845
63	21.7	8.9	0.0	0.0	0.0	39.6	0.0	29.7	0.09542
66	20.1	7.0	0.0	0.0	0.0	38.9	0.0	34.0	0.10341
69	19.0	5.9	0.0	0.0	0.0	38.2	0.0	36.9	0.10988
72	21.5	4.5	0.0	0.0	0.0	36.1	0.0	37.9	0.10791
75	18.4	3.5	0.0	0.0	0.0	34.0	0.0	44.1	0.11015
78	19.7	1.0	0.0	0.0	0.0	30.0	0.0	49.3	0.11028
81	18.7	0.0	0.0	0.0	0.0	27.6	0.0	53.7	0.11804
84	18.3	0.0	0.0	0.0	0.0	26.2	0.0	55.5	0.12599
87	24.2	0.0	0.0	0.0	0.0	20.6	0.0	55.1	0.11457
90	19.9	0.0	0.0	0.0	0.0	15.6	0.0	64.6	0.12205
93	18.5	0.0	0.0	0.0	0.0	13.4	0.0	68.1	0.12198
96	21.4	0.0	0.0	0.0	0.0	9.5	0.0	69.1	0.12917