

Supplementary Material

Table S1. Growth rate (mean $\pm$ SD) shown as difference (Δ) of *Salmonella* counts in log₁₀ CFU/mL of 2, 4, 6, and 24 h compared to counts of 0 h incubation time of three *Salmonella* serovars (*S. Typhimurium* DSM 19587, *S. Derby*, *S. Typhimurium*) in Cationic-adjusted Mueller Hinton buillon adjusted to a pH value of 6.0 exposed to different sodium butyrate (SB) concentrations (n=3)

SB concentration in mM	Δ log ₁₀ CFU _{2h-0h}				Δ log ₁₀ CFU _{4h-0h}				Δ log ₁₀ CFU _{6h-0h}				Δ log ₁₀ CFU _{24h-0h}			
	serovar				serovar				serovar				serovar			
	S. Typh. ¹ DSM 19587	S. Derby	S. Typh. ¹	p- value	S. Typh. ¹ DSM 19587	S. Derby	S. Typh. ¹	p- value	S. Typh. ¹ DSM 19587	S. Derby	S. Typh. ¹	p- value	S. Typh. ¹ DSM 19587	S. Derby	S. Typh. ¹	p- value
0	0.69 ^{aA} $\pm$ 0.03	0.50 ^{aA} $\pm$ 0.07	0.26 ^{bA} $\pm$ 0.17	0.0067	2.04 ^{aA} $\pm$ 0.27	1.69 ^{aA} $\pm$ 0.26	1.32 ^{bA} $\pm$ 0.16	0.0257	3.27 ^{aA} $\pm$ 0.16	2.76 ^{bA} $\pm$ 0.14	2.22 ^{cA} $\pm$ 0.16	0.0005	4.63 ^{bA} $\pm$ 0.51	6.51 ^{aA} $\pm$ 0.13	3.78 ^{cA} $\pm$ 0.11	0.0001
5	0.39 ^{aB} $\pm$ 0.13	0.29 ^{aB} $\pm$ 0.17	0.23 ^{aAB} $\pm$ 0.04	0.3453	1.43 ^{aB} $\pm$ 0.21	1.17 ^{abB} $\pm$ 0.15	0.83 ^{bB} $\pm$ 0.23	0.0264	2.54 ^{aB} $\pm$ 0.15	2.10 ^{aB} $\pm$ 0.11	1.49 ^{aAB} $\pm$ 0.94	0.1432	4.52 ^{bA} $\pm$ 0.37	6.37 ^{aAB} $\pm$ 0.25	3.82 ^{cA} $\pm$ 0.13	<0.0001
10	0.17 ^{aC} $\pm$ 0.08	0.05 ^{aC} $\pm$ 0.06	0.12 ^{aABC} $\pm$ 0.10	0.2486	0.74 ^{aC} $\pm$ 0.27	0.65 ^{aC} $\pm$ 0.05	0.54 ^{aC} $\pm$ 0.15	0.4519	1.18 ^{aC} $\pm$ 0.36	1.20 ^{aC} $\pm$ 0.16	0.91 ^{aBC} $\pm$ 0.48	0.5695	4.17 ^{bAB} $\pm$ 0.15	6.00 ^{aB} $\pm$ 0.27	3.61 ^{cAB} $\pm$ 0.17	<0.0001
20	0.01 ^{aD} $\pm$ 0.09	0.04 ^{aCD} $\pm$ 0.15	0.03 ^{aCD} $\pm$ 0.04	0.9501	0.15 ^{aD} $\pm$ 0.16	0.10 ^{aD} $\pm$ 0.01	0.10 ^{aD} $\pm$ 0.07	0.7529	0.48 ^{aD} $\pm$ 0.07	0.40 ^{aD} $\pm$ 0.05	0.40 ^{aCD} $\pm$ 0.18	0.6177	3.76 ^{aB} $\pm$ 0.22	3.75 ^{aC} $\pm$ 0.24	3.33 ^{bB} $\pm$ 0.04	0.0523
40	0.06 ^{aCD} $\pm$ 0.04	-0.05 ^{aCD} $\pm$ 0.08	0.05 ^{aBCD} $\pm$ 0.09	0.1818	0.13 ^{aD} $\pm$ 0.08	-0.05 ^{bD} $\pm$ 0.08	-0.11 ^{bD} $\pm$ 0.04	0.0119	-0.01 ^{aE} $\pm$ 0.06	-0.16 ^{aE} $\pm$ 0.18	0.02 ^{aD} $\pm$ 0.16	0.3240	0.76 ^{aC} $\pm$ 0.51	-0.12 ^{abD} $\pm$ 0.29	-0.29 ^{bC} $\pm$ 0.50	0.0553
80	0.08 ^{aCD} $\pm$ 0.06	-0.14 ^{bD} $\pm$ 0.01	-0.08 ^{bD} $\pm$ 0.11	0.0237	0.05 ^{aD} $\pm$ 0.11	-0.11 ^{aD} $\pm$ 0.21	-0.15 ^{aD} $\pm$ 0.18	0.3851	-0.01 ^{aE} $\pm$ 0.05	-0.13 ^{aE} $\pm$ 0.22	-0.07 ^{aD} $\pm$ 0.09	0.5788	0.01 ^{aD} $\pm$ 0.01	-0.11 ^{aD} $\pm$ 0.09	-0.21 ^{aC} $\pm$ 0.18	0.1400
p-value	< 0.0001	< 0.0001	< 0.0115		< 0.0001	< 0.0001	< 0.0001		< 0.0001	< 0.0001	< 0.0002		< 0.0001	< 0.0001	< 0.0001	

¹S. Typh.: *S. Typhimurium*

a, b, c Different subscripts within a row mark significant differences between serovars ($p < 0.05$)

A, B, C, D, E Different subscripts within a column mark significant differences between concentrations ($p < 0.05$)

Table S2. Analyzed butyrate content in mM (mean $\pm$ SD) in *Salmonella*-sodium butyrate solutions incubated for 0, 1, 2, 4, 6, and 24 h for *S. Typhimurium* DSM 19587 (n=3)

Incubation time	Calculated sodium butyrate concentration in mM					
	0	5	10	20	40	80
0 h	0.08 $\pm$ 0.06	5.39 $\pm$ 0.64	11.14 $\pm$ 1.30	23.53 $\pm$ 1.19	46.53 $\pm$ 3.59	97.60 $\pm$ 3.82
1 h	0.11 $\pm$ 0.07	5.53 $\pm$ 0.61	11.33 $\pm$ 1.19	23.07 $\pm$ 2.32	48.00 $\pm$ 4.20	97.33 $\pm$ 7.75
2 h	0.14 $\pm$ 0.11	5.71 $\pm$ 0.69	11.40 $\pm$ 0.78	24.23 $\pm$ 1.96	48.33 $\pm$ 3.18	96.70 $\pm$ 6.11
4 h	0.11 $\pm$ 0.04	5.96 $\pm$ 0.79	11.70 $\pm$ 1.32	23.60 $\pm$ 2.76	47.73 $\pm$ 1.21	95.47 $\pm$ 2.26
6 h	0.07 $\pm$ 0.02	6.94 $\pm$ 2.50	13.47 $\pm$ 4.03	26.57 $\pm$ 5.27	50.47 $\pm$ 5.25	97.60 $\pm$ 5.67
24 h	0.11 $\pm$ 0.07	6.15 $\pm$ 0.99	12.63 $\pm$ 1.80	24.40 $\pm$ 1.93	50.00 $\pm$ 3.36	97.43 $\pm$ 5.33
<i>p</i> -value	0.7581	0.6869	0.7008	0.7291	0.7832	0.9957