

**Additional file 2 – Time course pH measurements**

Average pH values with standard deviations of triplicate cultures containing 2.5, 5, 10, and 30

mM  $\text{HCO}_3^-$  as the sole buffer and a combination of  $\text{HCO}_3^-$  and HEPES. The values in bold are the final pH measurements.

Day	$[\text{HCO}_3^-]$ mM							
	2.5	2.5 & HEPES	5	5 & HEPES	10	10 & HEPES	30	30 & HEPES
0	7.49 ± 0.06	7.48 ± 0.08	7.47 ± 0.05	7.51 ± 0.07	7.54 ± 0.05	7.46 ± 0.04	7.44 ± 0.03	7.43 ± 0.03
1	7.41 ± 0.07	7.43 ± 0.08	7.45 ± 0.07	7.51 ± 0.04	7.56 ± 0.03	7.45 ± 0.06	7.45 ± 0.09	7.50 ± 0.02
7	7.23 ± 0.05	7.38 ± 0.09	7.37 ± 0.06	7.44 ± 0.09	7.66 ± 0.18	7.47 ± 0.06	7.56 ± 0.07	7.58 ± 0.03
17	7.29 ± 0.03	7.26 ± 0.12	7.36 ± 0.03	7.48 ± 0.12	7.87 ± 0.11	7.53 ± 0.04	7.60 ± 0.11	7.60 ± 0.03
19	–	7.58 ± 0.01	–	<b>7.61 ± 0.09</b>	–	–	–	–
20	–	–	–	–	–	–	–	–
23	7.81 ± 0.06	–	7.92 ± 0.09	–	8.12 ± 0.11	–	–	–
26	–	<b>7.62 ± 0.09</b>	–	–	–	7.64 ± 0.01	7.68 ± 0.09	7.65 ± 0.01
28	–	–	–	–	–	<b>7.76 ± 0.05</b>	–	–
32	<b>7.97 ± 0.20</b>	–	–	–	–	–	–	<b>7.80 ± 0.04</b>
35	–	–	<b>8.55 ± 0.20</b>	–	8.73 ± 0.10	–	8.07 ± 0.19	–
40	–	–	–	–	<b>8.71 ± 0.19</b>	–	<b>8.13 ± 0.17</b>	–