Supplemental Figure Legends

Fig S1. Extracellular pH (pHe) and intracellular pH (pHi) are directly related. Isolated acinar cells, loaded with the pH-sensitive floroprobe BCECF-AM (2 μM), were exposed to extracellular buffer clamped at pH 7.6, 7.4, and 7.0. Changes in pHi was estimated using in situ calibration, where pHe was changed in the presence of high K^+ and the ionophore nigericin (5 μM).. S1A shows a representative tracing from an individual cell. S1B represents shows pooled data from four separate experiments, with estimated mean pHi ± SEM for each pHe value.

Fig S2. Increasing pHe does not affect Ca^{2+} signaling. The pH-dependent changes in the frequency (S2A) and amplitude (S2B) were quantified in three separate experiments in cells treated with 10 pM cerulein at pH 6.8, 7.4, and 7.6. The percentage of cells responding per treatment condition was: 73% pH 6.8, 76% for pH 7.4, 59% pH 7.6. (30 cells/treatment group; mean +/- SEM for three separate experiments; *$p<0.05$ vs pH 7.4).

Fig S3. Treatment with the IP3R inhibitor 2-APB halts Ca^{2+} oscillations. These representative plots of fluorescence over time were recorded from a single cell treated with physiologic concentrations (10 pM) of cerulein at pH 7.4 (3A) or 7.0 (3B) during the entire recording period, with the addition of 2-aminoethoxydiphenyl borate (2-APB) during the time marked by arrows. 2-APB completely, but reversibly, inhibits oscillations. Similar results were seen in 30 cells in each of 3 acinar cell preparations under each condition. The percentage of cells responding per treatment condition was: 60% for cerulein pH 7.4, 63% for cerulein pH 7.0.

Figure S1.

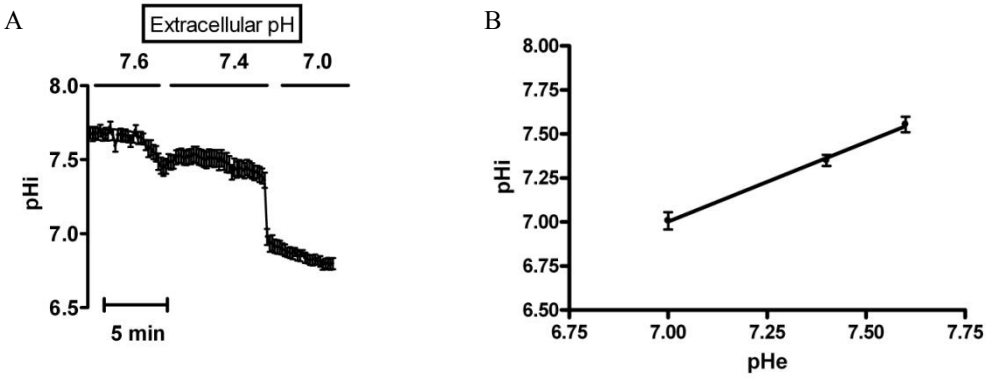

A
Extracellular pH
7.6
7.4
7.0
8.0
7.5
7.0
6.5
pHi
5 min
B
8.00
7.75
7.50
7.25
7.00
6.75
6.50
pHi
6.75
7.00
7.25
7.50
7.75
pHe

Figure S2.

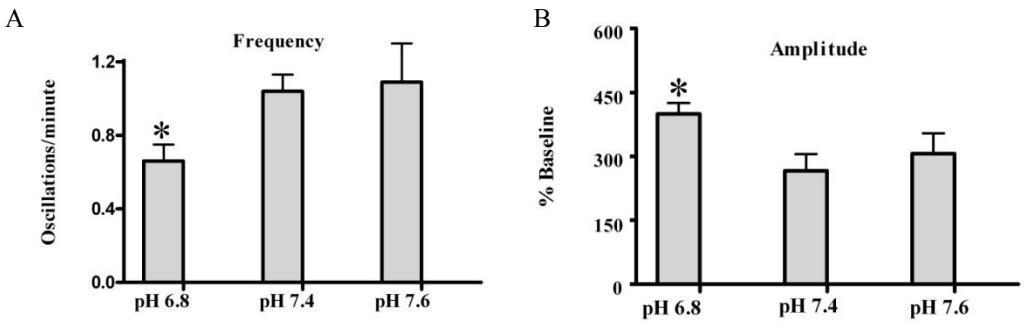
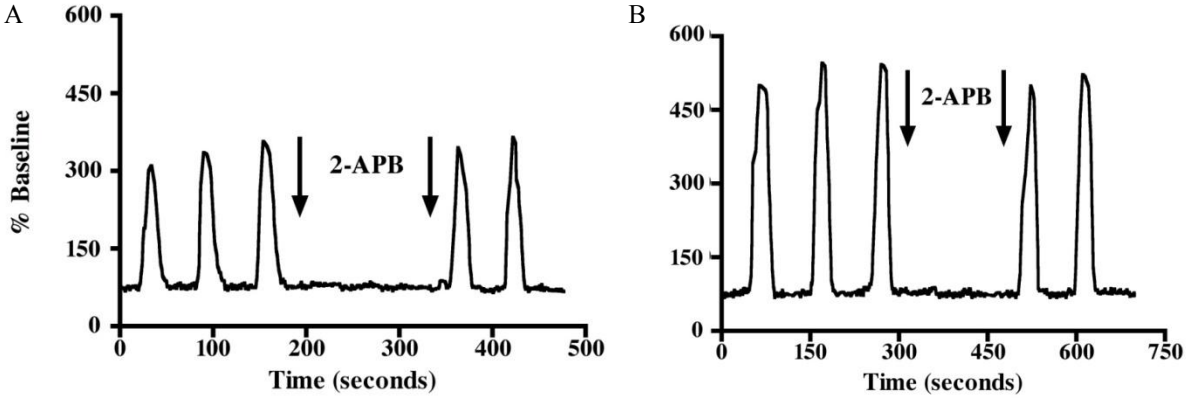

A
Frequency
Oscillations/minute
1.2
0.8
0.4
0.0
*
pH 6.8
pH 7.4
pH 7.6
B
Amplitude
% Baseline
600
450
300
150
0
*
pH 6.8
pH 7.4
pH 7.6

Figure S3.


A
% Baseline
600
450
300
150
0
2-APB
0
100
200
300
400
500
Time (seconds)
B
600
450
300
150
0
2-APB
0
150
300
450
600
750
Time (seconds)