

SUPPLEMENTAL INFORMATION

TABLES

Table S1. Expression of sE-cad responsive *MMPs*

	Mean RQ±SD	p rel Control	p rel Pepsin pH4	p rel Placebo + Pepsin pH4	p rel SA-pB + Pepsin pH4
<i>MMP1</i>					
Control	1.00±0.15				
pH4	0.98±0.04	0.90	0.0002		
Pepsin pH4	2.12±0.19	0.002			
Placebo + Pepsin pH4	2.21±0.17		0.57		
SA-PB + Pepsin pH4	0.87±0.01		0.0035	0.0022	
SA-SB-CC + Pepsin pH4	0.88±0.08		0.0003	0.0002	0.92
<i>MMP2</i>					
Control	1.00±0.34				
pH4	1.33±0.17	0.19	0.007		
Pepsin pH4	3.79±1.27	0.0072			
Placebo + Pepsin pH4	3.86±0.70		0.85		
SA-PB + Pepsin pH4	1.24±0.13		0.0053	0.0008	
SA-SB-CC + Pepsin pH4	1.14±0.11		0.0038	0.0005	0.37
<i>MMP9</i>					
Control	1.00±0.10				
pH4	1.34±0.08	0.013	0.0002		
Pepsin pH4	8.02±1.69	0.0001			
Placebo + Pepsin pH4	8.77±2.30		0.73		
SA-PB + Pepsin pH4	0.78±0.12		0.0001	0.0002	
SA-SB-CC + Pepsin pH4	0.64±0.12		0.0001	0.0002	0.25
<i>MMP14</i>					
Control	1.00±0.09				
pH4	1.33±0.07	0.0095	0.013		
Pepsin pH4	1.65±0.12	0.0018			
Placebo + Pepsin pH4	1.54±0.05		0.25		
SA-PB + Pepsin pH4	1.00±0.10		0.0026	0.0025	
SA-SB-CC + Pepsin pH4	1.11±0.05		0.0016	0.0008	0.17

RQ=relative quantity

Figure S1. Dilution of alginate (1:10) remedied loss of cell viability caused by undilute alginate. BAR-T cells were exposed to HBSS, placebo, or alginate or dilute placebo/alginate briefly before two washes in HBSS and 30 minute incubation in HBSS at 37°C/5% CO₂ prior to ATP cell viability assay. RLU=relative luminescent units; error bars=SEM

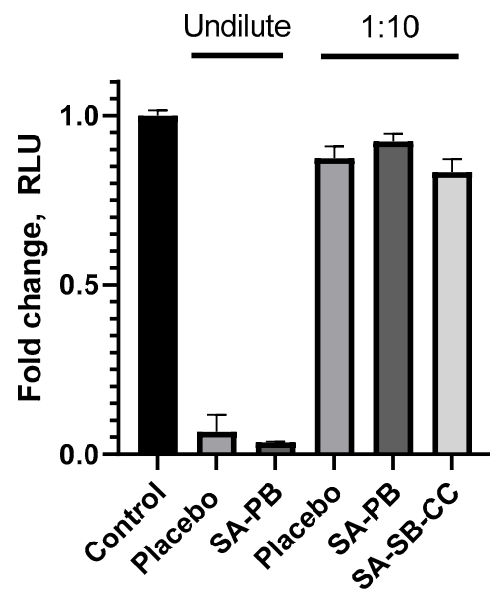


Figure S2. Pepsin-acid treatment (1mg/ml pepsin pH4) 10-30min yielded less drastic loss of cell viability relative to 1 hour treatment and was therefore used in experiments to assess gene/protein expression. RLU=relative luminescent units; error bars=SEM

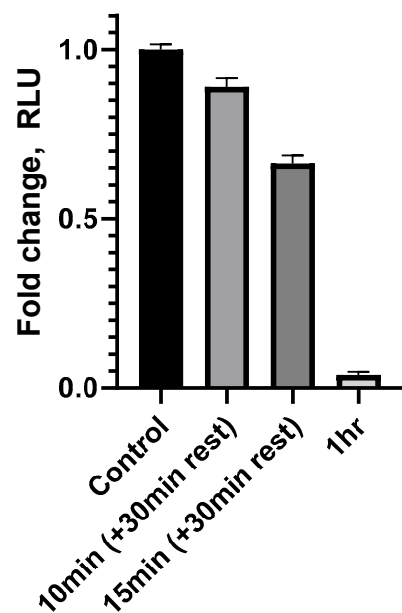
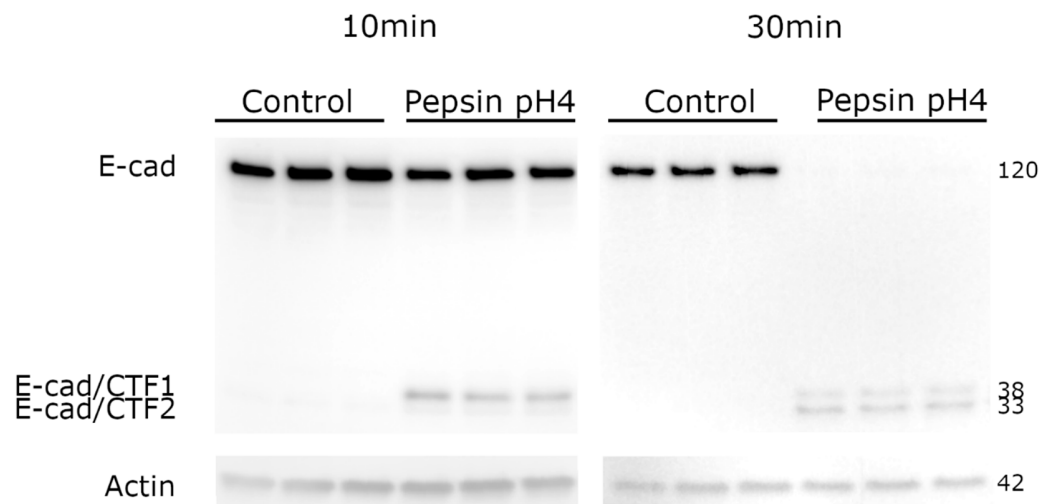


Figure S3. E-cadherin cleavage was partial after 10 minutes with 1mg/ml pepsin pH4 and total after 30 minutes.



Statistical Analyses Results

I.ATP assay: Cell viability (Figure 1)

Group	N Obs	Mean	Std Dev	Minimum	Lower Quartile	Median	Upper Quartile	Maximum
Control	8	13290688.88	837162.54	11786739.00	12963682.50	13219295.50	13814795.50	14543225.00
SA-PB + Pepsin pH4	8	11379992.50	2140689.07	7189483.00	9992467.50	12346628.00	12947696.50	13276873.00
SA-SB-CC + Pepsin pH4	8	10657598.25	1839555.77	8780505.00	9060248.50	10165562.00	12340782.50	13347095.00
Pepsin pH4	7	404226.00	129900.65	296963.00	329360.00	361200.00	402957.00	686131.00
Placebo + Pepsin pH4	8	432084.13	376680.81	101289.00	133052.50	272579.00	699427.50	1145266.00

Comparison	P-value
Control vs. Pepsin pH4	<0.0001
Control vs. Placebo+Pepsin pH4	<0.0001
Control vs. SA-PB+Pepsin pH4	0.043
Control vs. SA-SB-CC+Pepsin pH4	0.0024
Pepsin pH4 vs. Placebo+Pepsin pH4	0.85
Pepsin pH4 vs. SA-PB+Pepsin pH4	<0.0001
Pepsin pH4 vs. SA-SB-CC+Pepsin pH4	<0.0001
Placebo+Pepsin pH4 vs. SA-PB+Pepsin pH4	<0.0001
Placebo+Pepsin pH4 vs. SA-SB-CC+Pepsin pH4	<0.0001
SA-PB+Pepsin pH4 vs. SA-SB-CC+Pepsin pH4	0.48

II.ATP assay: Proliferation (Figure 6)

Group	N Obs	Mean	Std Dev	Minimum	Lower Quartile	Median	Upper Quartile	Maximum
Acid	24	9657921.58	326544.85	9202465.00	9461319.50	9574875.50	9836059.00	10584557.00
Control	24	11808629.38	1688947.98	9120330.00	9645761.00	12625646.00	13000304.50	14233158.00
Pepsin pH4	22	16653334.68	1874353.27	14682413.00	15205047.00	15949018.50	19099147.00	19735751.00

Comparison	P-value
Control vs. Acid	<0.0001
Control vs. Pepsin pH4	<0.0001
Acid vs. Pepsin pH4	<0.0001

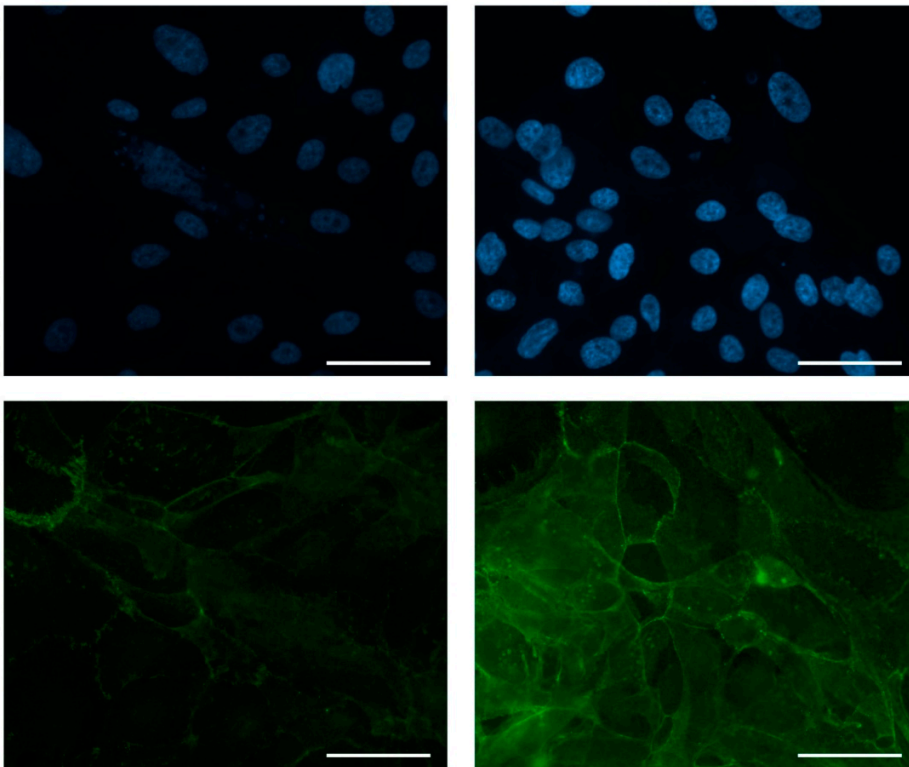
Figure 3 Replicate images

Scale bars = 50µm

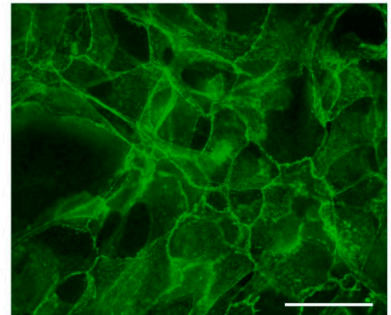
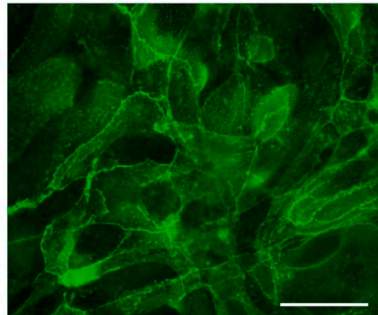
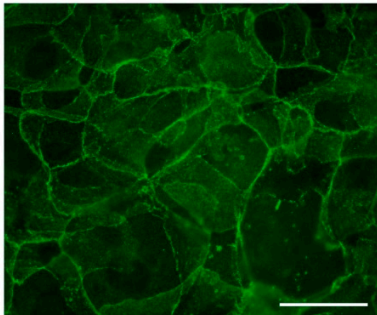
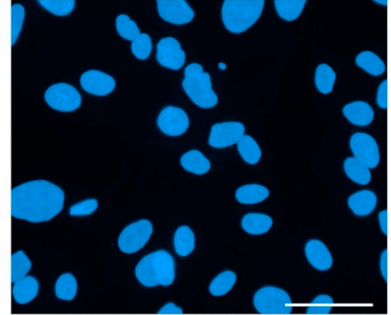
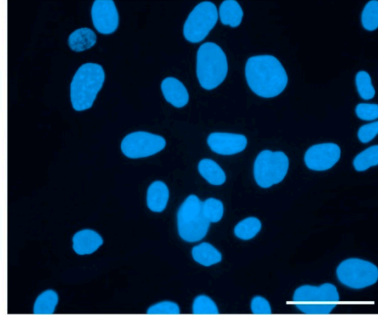
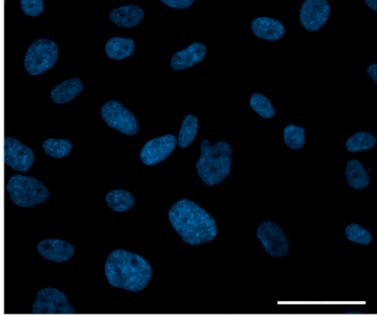
Blue: DAPI

Green: E-cadherin

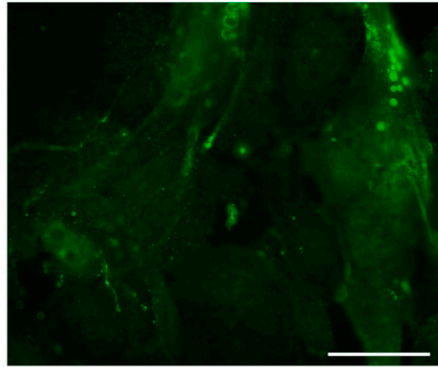
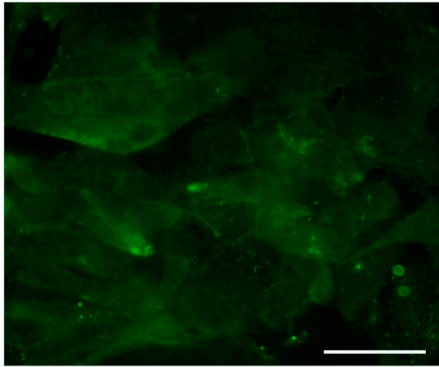
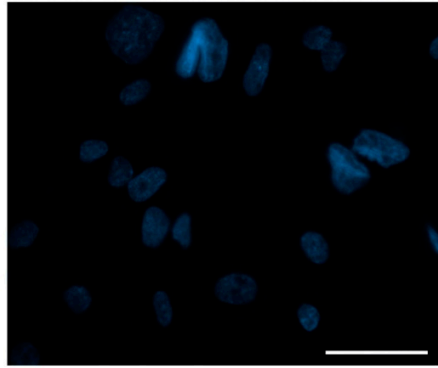
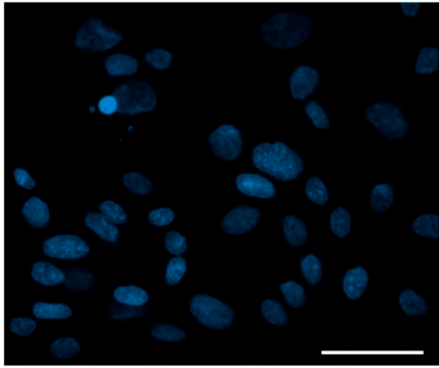
Control



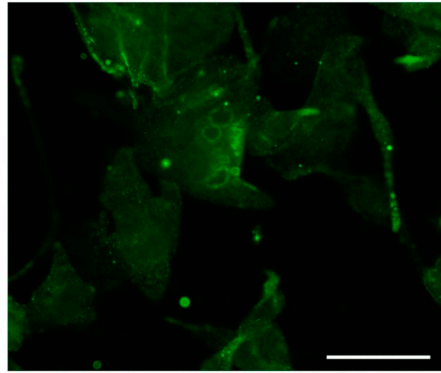
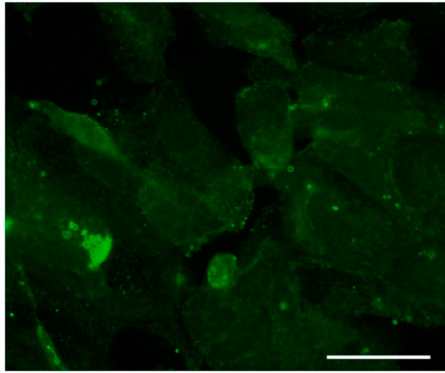
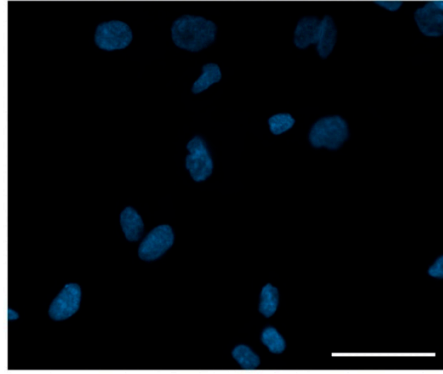
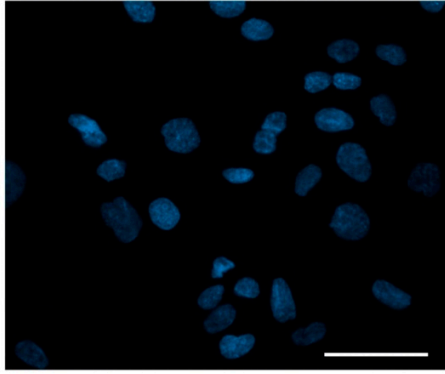
pH4



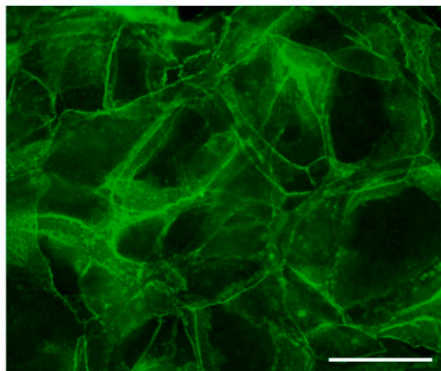
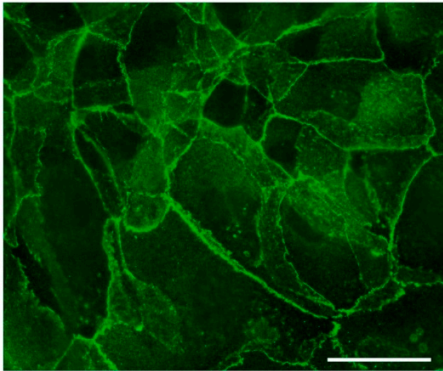
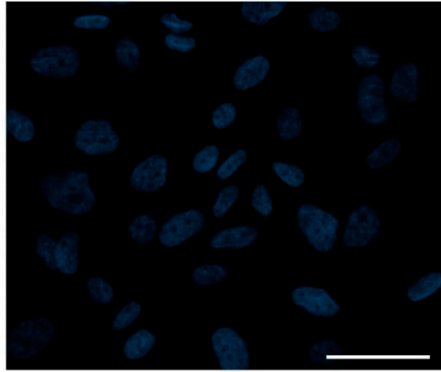
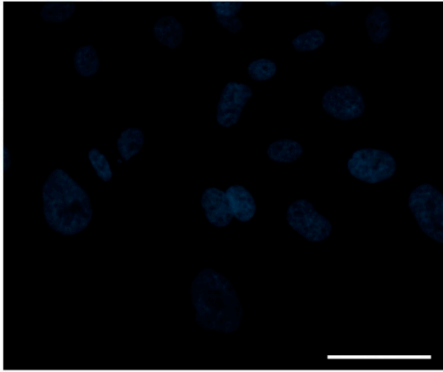
Pepsin pH4



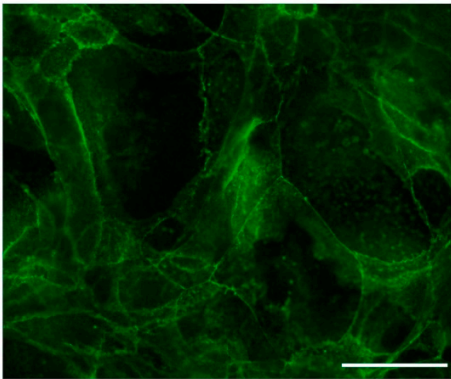
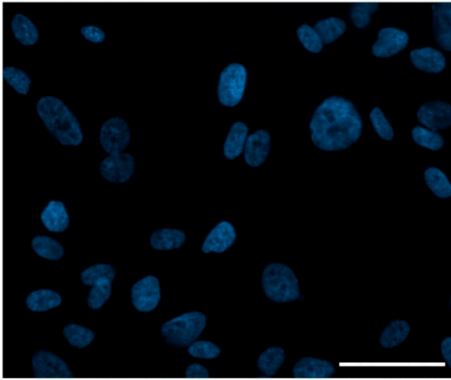
Placebo + Pepsin pH4



SA-PB + Pepsin pH4



SA-SB-CC + Pepsin pH4



IgG

