Cytotoxicity and induction of inflammation by pepsin in acid in bronchial epithelial cells

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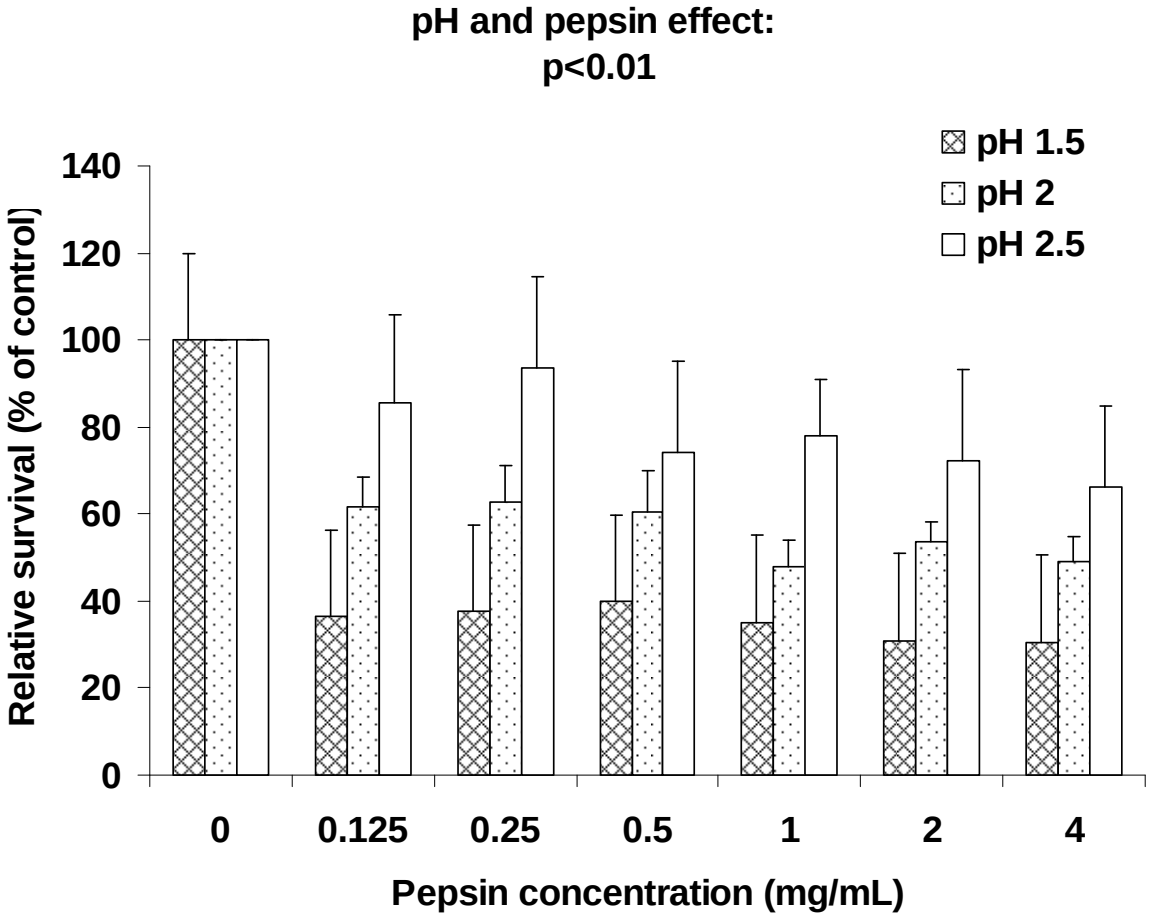
Online supplement

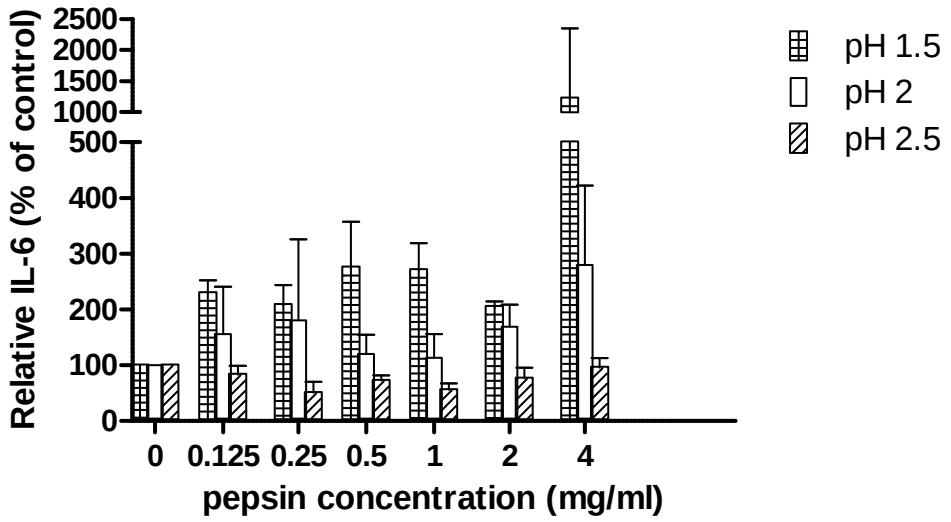
Figures presenting effects of pepsin on cell survival and induction of cytokine release of all the pepsin concentrations and pH levels used in the statistical analysis

Figure 1: Decrease of cell proliferation produced by pepsin exposure: effect of pepsin and pH



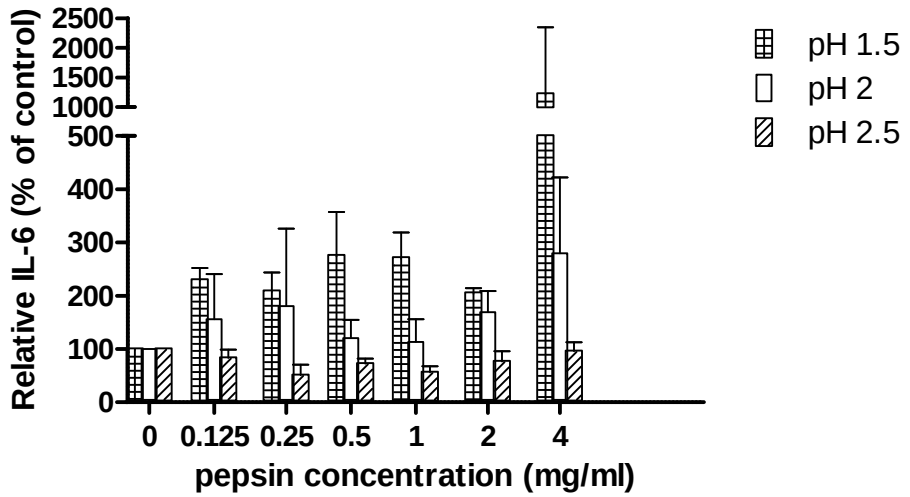
Cell proliferation was measured by absorbance, and expressed as a % of absorbance of treatment with the corresponding pH without pepsin (control). Pepsin induced a significant decrease in cell proliferation independent of pH ($F=6.5$; $p<0.01$) and this pepsin induced decreased cell proliferation is significantly different between the pH levels used for exposure ($F=17.4$; $p<0.01$). Data are expressed as means (histograms) and SEM (bars) for 3 replicates.

Figure 2: Induction of IL-6 release by pepsin: effect of pepsin and pH



Interleukin-6 was corrected for cell proliferation and expressed as a % of exposure with the corresponding pH without pepsin (control). There is a trend for differences in pepsin-induced interleukin-6 release between the pH levels ($F=2.5$; $p=0.09$). Interleukin-6 release induced by pepsin is higher at pH 1.5 compared to pH 2.5 (mean difference 283%; $p=0.03$). Data are expressed as means (histograms) and SEM (bars) for 3 replicates.

Figure 3: Induction of IL-8 release by pepsin: effect of pepsin and pH



Interleukin-8 was corrected for cell proliferation and expressed as a % of exposure with the corresponding pH without pepsin (control). There is a difference in interleukin-8 release induced by pepsin between the pH levels ($F=5.1$; $p<0.01$). Interleukin-8 release induced by pepsin is higher at pH 1.5 compared to pH 2.5 (mean difference 221%; $p<0.01$). Data expressed as mean (histograms) and SEM (bars) for 3 replicates.