

P008 *Salmonella typhimurium* causes upregulation of porcine β -defensin 2 in a porcine intestinal cell line.

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Introduction:

Beta defensins are small antimicrobial peptides that are part of the innate immune system of animals and plants. In the intestine, they are produced and secreted by epithelial cells, and for some defensins, the expression can be induced upon a bacterial trigger. In this study a porcine ileal epithelial cell line (IPI) was used to detect whether porcine defensins 1 and 2 (pBD1&2) are inducible upon bacterial infection.

Results:

A natural pBD expression increase during growth in DMEM medium/10% FCS was observed in IPI cells. To optimize the infection experiments, cells were grown in Synthetic medium where the natural pBD production remained constant over the timecourse of the experiment. *Salmonella typhimurium* infection of IPI cells resulted in an 10-fold increase in pBD2 production while PBD1 remained constant. In addition elevated levels of IL-8 were observed upon infection. Similar infection of IPI cells using *Staphylococcus aureus*, *arcobacter* and *salmonella enteritidis* had similar (but slightly lower) effects on secreted IL-8 levels, but no effect on the pBD production was observed. This indicates that there is a *Salmonella Typhimurium* specific effect on pBD2 regulation.