TGF-β1 production in small intestine of weaned piglets

Petr SLAMA¹, Ruth SLAMOVA², Hana VONDRUSKOVA², Martina TRCKOVA², Zdenek ZRALY²

¹Mendel University in Brno, Zemedelska 1, 61300 Brno, Czech Republic, (e-mail: petr.slama@mendelu.cz)
²Veterinary Research Institute, Hudcova 70, 62100 Brno, Czech Republic

Abstract

Transforming growth factor-beta (TGF-β) belongs to pleiotropic cytokines. It exists in five isoforms (TGF-β1-5). TGF-β1 is the most abundant isoform. This cytokine belongs to anti-inflammatory cytokine group. The level of inflammatory cytokines may suggest course of inflammation. The aim of this study was to evaluate concentration of TGF-β1 in course of spontaneous post-weaning diarrhoeal infection in piglets.

For the TGF-β1 assay, samples of duodenum, jejunum, ileum and blood were taken. Blood samples were drawn from vena cava cranialis and TGF-β1 concentration was measured in the blood serum. The samples of duodenum, jejunum and ileum (10 cm fragments) were removed after abdominal dissection of the slaughtered pigs aged 48 days. TGF-β1 concentration was quantified by ELISA (eBioscience, San Diego, CA, USA).

There were measured these concentrations of TGF-β1: duodenum 204.96 pg/ml, jejunum 142.45 pg/ml, blood serum 1737.05 pg/ml. There was measured no concentration of TGF-β1 in ileum.

For better understanding of inflammatory response in course of post-weaning infection, there is necessary to evaluate more cytokines. In this case, there is suitable to know concentration of pro- and anti-inflammatory cytokines. Now, we are working on quantification of TNF-α such as pro-inflammatory cytokine.

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