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FACTOR C-REL PLAYS A ROLE IN DRIVING EXPERIMENTAL ILEITIS
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Relevance. Genetic and environmental factors, including the commensal microbiota, have a crucial role in the development of inflammatory bowel disease (IBD). IBD is also associated with chromosome 2p16, which contains *REL*, which encodes c-Rel, a subunit of NF- κ B. Aberrant activation of the transcription factor NF- κ B is associated with acute and chronic intestinal inflammation in rats and play a key role in cytokine gene regulation, in patients with IBD. c-Rel is required also within cells of the innate immune system for the activation of T cell-dependent as well as innate mechanisms of mucosal inflammation.

Aim: was to investigate the expression of the NF- κ B subunit c-Rel in the development of acute and chronic ileitis in rats.

Materials and methods. Male Wistar rats weighing 200–250 g were housed in standard wire-mesh bottom cages at constant temperature of 25°C and 12/12 h light/dark cycles. Acute ileitis was induced in fed rats (n=10) by one subcutaneous injections of indomethacin, an inhibitor of the cyclooxygenase pathway of arachidonic acid (15 mg/kg). Chronic ileitis was induced by two subcutaneous injections of indomethacin (10 mg/kg in 5% freshly prepared NaHCO₃ at 37°C) were administered 24 hours apart. Expression of c-Rel mRNA was determined by by real-time reverse-transcription polymerase chain reaction performed using an CFX96™ Real-Time PCR Detection Systems (Bio-Rad Laboratories, Inc., USA). GAPDH was used as endogenous control to normalize gene expression data, and a relative quantitation value. All statistical analyses were performed using STATISTICA 6.0 software. Results are expressed as mean values \pm SEM.

Results. The expression of c-Rel was assessed in ileum. Greater expression of c-Rel predominated during chronic ileitis in rats compared to control group (4.8 ± 0.7 , $P < 0.003$). Consistent with the pronounced expression during chronic disease, the level of c-Rel expression was also elevated in rats with acute ileitis (4.1 ± 1.1 , $P < 0.02$).

Conclusion. In summary, these results suggest that the expression of c-Rel in ileum is essential for initiating intestinal inflammation and may advance our understanding of IBD pathogenesis and that targeting NF- κ B c-Rel can be used as a novel molecular approach for the treatment of patients with IBD.