

Designing of specific primer pairs for quantitative analysis of I-FABP (Intestinal fatty acid binding protein) gene in patients with celiac disease by polymerase chain reaction technique

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ABSTRACT

Background and aim: Celiac disease (CD) is a common immune-mediated enteropathy triggered by the gluten in genetically susceptible individuals. The diagnosis of CD is according to the serological examinations and endoscopy by biopsy. Recent studies suggest the crucial role of intestinal fatty acid binding proteins (I-FABP) as the biomarker for diagnosing the celiac disease. The aim of this study was to investigate the new specific primer pairs for quantitative analysis of I-FABP gene in blood samples of patients with celiac disease by polymerase chain reaction technique.

Method: At first the DNA was extracted directly from patients' blood sample. The gene specific primer pairs were designed and determining the temperature and specificity of the gene was verified by Blast software. Then PCR was carried out using specific primers for human I-FABP and amplified PCR products was confirmed by gel electrophoresis.

Results: The result of this study showed that I-FABP was detected correctly in the blood samples of patients with celiac disease and no nonspecific band was observed.

Conclusion: The results suggest that I-FABP is an early marker of gluten-induced enteropathy in celiac patients and may be of use in both clinical and research settings.

Keywords: Celiac disease, Intestinal fatty acid binding proteins, polymerase chain reaction.