ABSTRACT

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Title of diploma thesis: Search for a suitable houskeeping gene for relative guantification in patients with the chronic lymfocytic leukemia

Chronic lymphocytic leukemia (CLL) is the most common form of leukemia found in adults and that is why it is studied very intensively. The cause of CLL is still unknown and it is not known how to cure this lyphoproliferative disorder without high risk of complications that may occur with a bone marrow transplantation. Altered gene expression of angiogenic factors in CLL is still insufficiently known too, so we decided to study this topic in our laboratory.

Our task was to establish method for quantification of proper housekeeping gene that can be used for normalization of results of quantification of expression of some angiogenic factors by real-time PCR. We decided to use Abl1 gene but that gene is alternatively spliced. Exon 1 containing variant is housekeeping only and we had to take it into account when choosing proper method.

I managed to transform Escherichia coli cells and amplify plasmid containing Abl1 sequence. Plasmid was isolated, quantificated by spectrophotometer and used to establish method for quantitation of Abl1 transcript using specific primers and hydrolysis probe with high efficiency (97 %) and linearity (R2 = 0,9994) and this method can be used for normalization of results of quantification of transcripts of angiogenic factors analyzed by our laboratory.