ABSTRACT

The diploma thesis deals with endoglin, a transmembrane glycoprotein that can be cleaved to form so-called soluble endoglin, which then circulates in the blood. The theoretical part of the thesis is devoted to cardiovascular and liver diseases related to changes in the expression or level of endoglin in the blood and summarizes current knowledge about endoglin and its relation to various diseases.

The experimental part of the thesis describes the selection of a suitable antibody against endoglin intended for western blot (WB). We have four anti-endoglin primary antibodies available from three manufacturers. The purpose was to test the antibodies and determine, which one had the best ability to detect endoglin in mouse tissue samples such as liver or aorta on WB.

Affiblot was used to verify their ability to bind endoglin and also to compare their affinities to this protein. Newly developed patented dot-blot-based device. The binding of the used antibodies to endoglin was verified using the WB method and then the results of both methods were compared. The obtained results showed that the Abcam antibody has the most suitable parameters regarding specificity and sensitivity for the identification of endoglin in mouse tissue on WB.

Keywords: endoglin, soluble endoglin, NASH, cirrhosis, non-alcoholic steatohepatitis, antibody, affiblot