Abstract

Currently a grate emphasis is being put on accurate and early diagnosis of Alzheimer's disease (AD), which is important for the introduction of treatments that could postpone the onset of the disease. Antibodies against tau protein appear to be suitable biomarkers for early diagnosis of AD. Therefore, this work deals firstly with preparation of human recombinant tau protein in bacteria and its subsequent use in determining levels of antibodies in blood serum of patients with AD and in normal older persons. A preparation of the tau protein in sufficient purity was achieved for the antibodies measurment by ELISA method and results were statistically analyzed using nonparametric methods. Results were compared with data from Mgr. Jany Švarcové obtained by measuring antibodies in serum of patients with AD and normal elderly using an commercial bovine tau protein. According to the analysis there are differences between the data obtained from human and the bovine tau protein. It was proven that patients with AN have lower levels of antibodies against tau protein than healthy seniors. Recombinant human tau protein was also used to immunize rabbits. The ELISA method confirmed the creation of antibodies against human tau protein in rabbits.