

Abstract

Charles University in Prague

Faculty of Pharmacy in Hradec Králové

Department of Biochemical Sciences

Candidate: Zuzana Kadová

Supervisor: Prof. Ing. Vladimír Wsól, Ph.D.

Title of diploma thesis: Investigations of tolerogenic effects of CTA1R7K-ChrA-DD on diabetogenic BDC2.5 CD4 cells

This project was focused on the study of a novel tolerance inducing vaccine, CTA1R7K-ChrA-DD. It was investigated if this construct can inhibit autoimmune diabetes and if the CTA1R7K-ChrA-DD treatment can affect proliferation and cytokine production of BDC2.5 CD4 cells. The treatment with CTA1R7K-ChrA-DD was effective only one time of two repeated experiments (using the same protocol) when the mice received the dose of construct more times on the other hand when they were treated only once the treatment was without effect. After in vitro restimulation with the PS3 peptide it would be expected less INF gamma production and less proliferation in CTA1R7K-ChrA-DD treated mice but in most cases, we got the opposite result. This study incites hope for that CTA1R7K-ChrA-DD construct actually has ability to induce protection against diabetes and is a good start for further studies.