

ABSTRACT:

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Title of Diploma Thesis: Synthesis of new types of succinimides as a potential adjuvant

Adjuvants represent a big group of the compounds used for the increased immune response to vaccines. This whole concept of these helper substances is more than 80 years old. The first finding that started the research of more substances was the alternative system of the aluminium salt.

Important group of adjuvants are substances, which activate the immunity system to increased reaction after stimulation of toll-like receptors (TLRs) that are present in the human body. These receptors are considered as one of the most important immunity molecules.

The best examined receptors of this group is the TLR4 receptor that binds various ligands. The most important ligands are the lipopolysaccharide of Gram-negative bacteria. Mechanisms of the interaction of these ligands with TLR4 are being examined recently.

In my thesis I focused on the TLR4 receptors and on the synthesis of new molecules of the succinimide type, which eventually can stimulate these receptors and be potential adjuvants.