# Abstract

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Title: Immunogenic tumour cells as a source of tumour antigens for the treatment by active cellular immunotherapy DCVAC/OvCa in patients with ovarian cancer in phase II of clinical trial.

Diploma thesis

Charles University in Prague, Faculty of Pharmacy in Hradec Králové

Field of study: Pharmacy

The utilization of the dendritic cell as an immunological modality for the cancer immunotherapy was enabled due to the finding of their major function in antigen presentation and also due to the induction of the primary immune response through the activation of the naive T-cells.

The tumour cells from the cell lines killed by the high hydrostatic pressure are a suitable source of the antigens. This hydrostatic pressure induces an immunogenic cell death and provides an effective activation of immune responses.

The objectives of this thesis are to describe the recent findings of the ovarian cancer immunotherapy. It is focused on dendritic cell based vaccine and on assessing the possible step for the optimization of the manufacturing protocol of this vaccine.

Within the experimental part, I followed the kinetics of the immunogenic parameters in the tumour cells line SKOV3 of ovarian cancer which were treated by application of high hydrostatic pressure, the inducer of immunogenic cell death. The results have been analysing at different time intervals and they have led to verification of the possibility of storing the treated cells by freezing at -196 ° C with regard to their subsequent use for pulsing dendritic cells.

## Key words

Cancer immunotherapy, immunogenic cell death, dendritic cells, ovarian cancer