

**FLOW CYTOMETRIC MONITORING OF THE APIGENIN ACTIVITY ON
THE INDUCTION OF NK CELLS' FUNCTIONALITY, FOR THE CLINICAL
PREVENTION OF CANCER**

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Introduction: Natural killer cells (NK Cells – NKC) are a subpopulation of lymphocytes that play an important role in immunotherapy.

Purpose: The investigation of possible induction of functionality of NK cells by the use of apigenin (4',5,7-trihydroxyflavone).

Materials and Methods: 18 healthy volunteers participated in the study. The methodology of quantification of cytotoxicity of NKC was used in the in vitro study, which included four stages: a) isolation of NKC from blood and their quantification, b) quantification of cancer cells (leiomyosarcoma - Wistar rats), which were used as cancer target cells (CTCs), c) incubation of NKC with CTCs in CO₂ chamber in the ratios 12.5:1, 25:1, and 50:1 and d) determination of cytotoxicity by flow cytometer Epics XL-MCL of Beckman-Coulter Co. The same trials were repeated after the addition of apigenin during stage c.

Results: The cytotoxicity of NKC against CTCs indicated an increase of 320%, 480%, average rate in the ratios 25:1 and 50:1, while no increase in cytotoxicity observed in the ratio 12.5:1.

Conclusions: Apigenin seems to have important anticancer properties against cancer cells and its use in clinical trials should be seriously considered in the future.