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**Title:** Polyphenolic compounds and experimentally induced allergic asthma

Prof. Dr Sona 17749 Franova [franova@jfmed.uniba.sk](mailto:franova@jfmed.uniba.sk)<sup>1</sup>, Dr. Marta 17750 Joskova [joskova@jfmed.uniba.sk](mailto:joskova@jfmed.uniba.sk) MD<sup>1</sup>, Dr. Ivana 17751 Kazimierova [kazimierova@jfmed.uniba.sk](mailto:kazimierova@jfmed.uniba.sk)<sup>1</sup> and Dr. Martina 17752 Sutovska [sutovska@jfmed.uniba.sk](mailto:sutovska@jfmed.uniba.sk) MD<sup>1</sup>. <sup>1</sup> Department of Pharmacology, Jessenius Faculty of Medicine in Martin, Comenius University in Bratislava, Martin, Slovakia (Slovak Republic) .

**Body:** Our experimental work was aimed at the influence of red-wine polyphenolic compound (RWPC, Provinol) on defence airways reflexes (cough, bronchoconstriction, mucociliary clearance) and on inflammation during experimentally induced allergic asthma. We studied the effects of RWPC and combinations of RWPC with clinically used antiasthmatics (budesonide and theophylline). The allergic inflammation of the airways was induced in guinea pigs by 21-day ovalbumin (OVA) sensitization. During ovalbumin (OVA) sensitization experimental animals were treated with RWPC (20 mg/kg/day p.o.), budesonide (1 mM by inhalation), theophylline (10 mg/kg/ day i.p.) or with half-dose combinations of these substances. Our result showed that 21 days administration of RWPC caused a significant decrease in bronchial hyperreactivity (to bronchoconstricting mediators) and decrease in parameters of cough reflex. RWPC adjusted ciliary movement frequency on physiological values. The bronchodilatory, antitussive of RWPC was comparable to theophylline and budesonide. Furthermore, the half-dose combinations of RWPC with theophylline or budesonide exceeded an above-mentioned effects of substances used as monotherapy. Our results demonstrated the antiinflammatory effect of RWPC (decrease of IL-4, IL-5 level in BALF, decrease of eosinophilia). In conclusion, we can summarize that RWPC possesses efficient antiasthmatic activity. This work was supported by Centre of Experimental and Clinical Respiriology II. "Project co-financed from EU sources" and by Grant VEGA 1/0020/11.