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## ANTIINFLAMATORNA I ANTIMIKROBNA AKTIVNOST EKSTRAKATA NEKIH *Stachys* VRSTA

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U ovom radu, predstavljeni su rezultati ispitivanja antiinflamatorne i antimikrobne aktivnosti metanolnih ekstrakata četiri balkanske endemične *Stachys* L. vrste: *S. beckeana* Dörfler & Hayek, *S. anisochila* Vis. et Pančićii, *S. plumosa* Griseb. i *S. alpina* L. ssp. *dinarica* Murb.

Kao model akutne inflamacije korišćen je karageninom uzrokovani edem šapice pacova. Ekstrakti, primenjeni u dozama od 50, 100 i 200 mg/kg p.o., ispoljili su dozno-zavisnu antiinflamatornu aktivnost. Ekstrakti *S. beckeana* i *S. anisochila*, u maksimalnoj dozi, ispoljili su najveći antiinflamatorni efekat (53.30 i 54.04%, respektivno). Aktivnost ovih ekstrakata slična je aktivnosti indometacina u dozama od 2 i 4 mg/kg (50.37 i 58.06%, respektivno). Antiinflamatorni efekat ekstrakta *S. plumosa* bio je nešto manji: u najvećoj dozi supresija inflamacije iznosila je 46.52%. Ekstrakt *S. alpina* ssp. *dinarica* pokazao je najmanju aktivnost: u dozi od 200 mg/kg p.o. njegov antiinflamatorni efekat bio je 37.17%.

Antimikrobna aktivnost ekstrakata ispitana je na standardne sojeve *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Enterococcus faecalis*, *Bacillus subtilis*, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, *Escherichia coli* i *Candida albicans*, korišćenjem agar difuzione i mikrodilucione metode(2). Svi ispitivani ekstrakti, primenjeni u koncentracijama 2 i 4%, pokazali su dozno-zavisnu aktivnost prema testiranim mikroorganizmima. Najveća aktivnost ispoljena je u odnosu na *K. pneumoniae*, *E. coli* i *C. albicans*.

### Literatura:

1. Petrovic et al. (2003) J Ethnopharmacol 87: 109-13; <sup>2</sup> Djordjevic et al. (2006) J Ethnopharmacol, in press

## ANTI-INFLAMMATORY AND ANTIMICROBIAL ACTIVITY OF EXTRACTS OF SOME *Stachys* SPECIES

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In this work were investigated the anti-inflammatory and antimicrobial effects of MeOH extracts of four endemic Balkan *Stachys* L. species: *S. beckeana* Dörfler & Hayek, *S. anisochila* Vis. et Pancic, *S. plumosa* Griseb. and *S. alpina* L. ssp. *dinarica* Murb.

As a model of acute inflammation carrageenan induced rat paw oedema was used. 1 Extracts, applied at doses of 50, 100 and 200 mg/kg p.o., showed dose-dependent anti-inflammatory activity. *S. beckeana* and *S. anisochila* extracts, applied at the highest dose, exhibited maximal anti-inflammatory effect (53.30 and 54.04%, respectively). This activity was comparable with the activity of indomethacin at doses of 2 and 4 mg/kg (50.37 and 58.06%, respectively). Anti-inflammatory effect of *S. plumosa* extract was slightly lower: at the highest dose suppression of inflammation was 46.52%. Extract of *S. alpina* ssp. *dinarica* showed the lowest activity: at 200 mg/kg its anti-inflammatory effect was 37.17%.

Antimicrobial activity was tested against standard strains of *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Enterococcus faecalis*, *Bacillus subtilis*, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, *Escherichia coli* and *Candida albicans*, using agar diffusion and microdilution test.<sup>2</sup>

All investigated extracts, applied at concentrations of 2 and 4%, showed dose-dependent activity. The highest activity was expressed against *K. pneumoniae*, *E. coli* and *C. albicans*.