

Conference abstract PO-53

## **Steroidal Saponins from the Bulbs of *Lilium candidum* L.**

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*Lilium candidum* L., Liliaceae belongs to plants used in folk medicine because of anti-inflammatory effects. Alcoholic and oil extracts from this plant are used externally for ulcers, inflammation, furuncles, finger ulcers, reddened skin, burns, injuries as well as for cosmetic preparations. Different types of compounds have been isolated and identified from this species including organic acids, flavonoids, nitrogenous and steroid compounds. Steroidal saponins of the spirostane and furostane type are very common in this species and have been isolated from different *Lilium* species up to now.

The extraction of fresh bulbs of *Lilium candidum* L. and subsequent purification of the ethanolic extract by CC (silica gel) led to the isolation of four steroidal saponins. 25*R* and 25*S* isomers of (3β)-3-[[α-L-rhamnopyranosyl-(1→2)-β-D-glucopyranosyl]oxy]spirost-5-en-27-ol were separated using HPLC. Two other saponins representing HMG esters of the mentioned 25*R* isomer and its glucosidic derivative (3β,25*R*)-3-[[β-D-glucopyranosyl-(1→4)-α-L-rhamnopyranosyl-(1→2)-β-D-glucopyranosyl]oxy]spirost-5-en-27-ol, respectively. HMG esters of isolated saponins are known from different species of genus *Lilium* [1–3]. However, their presence in *Lilium candidum* L. is confirmed for the first time.

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- [1] Mimaki Y, Sashida Y, Nakamura O, Nikaido T, Ohmoto T. Steroidal saponins from the bulbs of *Lilium regale* and *Lilium henryi*. *Phytochemistry*. 1993; 33: 675–682. doi:10.1016/0031-9422(93)85472-4
- [2] Mimaki Y, Nakamura O, Sashida Y, Satomi Y, Nishino A, Nishino N. Steroidal saponins from the bulbs of *Lilium longiflorum* and their antitumor promoter activity. *Phytochemistry*. 1994; 37: 227–232. doi:10.1016/0031-9422(94)85030-5
- [3] Nakamura O, Mimaki Y, Nishino H, Sashida A. Steroidal saponins from the bulbs of *Lilium speciosum* x *L. nobile* “Star Gazer” and their antitumor promoter activity. *Phytochemistry*. 1994; 36: 463–467. doi:10.1016/S0031-9422(00)97096-1