Antihyperalgesic activity of verbascoside in the chronic constriction injury of the sciatic nerve (CCI) and intra-articular injection of sodium

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Antihyperalgesic activity of verbascoside in the chronic constriction injury of the sciatic nerve (CCI) and intra-articular injection of sodium monoiodoacetate (MIA) models of neuropatic pain

MC Bergonzi [1], B Isacchi [1], R Iacopi [1], C Ghelardini [2], N Galeotti [2], M Norcini [2], E Vivoli [2], FF Vincieri [1], AR Bilia [1]

- [1]Department of Pharmaceutical Sciences, University of Florence, via U. Schiff 6, 50019 Sesto Fiorentino, (FI), Italy
- [2]Department of Preclinical and Clinical Pharmacology, University of Florence, Viale G. Pieraccini 6, 50139 Florence, Italy

- Congress Abstract

Verbascoside (acteoside) is a phenylpropanoid glycoside widely spread in nature. Different biological activities have been reported for such compound: anti-inflammatory, anti-ulcerogenic and antispasmodic activity [1], antiproliferative properties and inhibition of telomerase [2], immunomodulatory [3], antioxidant and photoprotective [4] and analgesic activities [5]. This study reports on the rapid isolation of verbascoside from*Lippia citriodora* H.B.K. (Verbenaceae), a not expensive and widespread source and its antihyperalgesic activity. Size exclusion chromatography with Sephadex LH-20, using hydroalcoholic solution (50% EtOH) is proposed as a fast and efficient method for the isolation and purification of verbascoside (purity >98% determined by HPLC/DAD/ESI MS). The antihyperalgesic activity of verbascoside was tested by *in vivo* assay, using the Paw-pressure test, in two animal models of neuropathic pain: a peripheral mononeuropathy produced either by a chronic constriction injury of the sciatic nerve (CCI), or by an intra-articular injection of sodium monoiodoacetate (MIA). Verbascoside administered intraperitoneally (i.p.) at the dose of 100mg/kg, reverted the mechanical hyperalgesia in both CCI and MIA treated rats, evaluated in the Paw-pressure test. The antihyperalgesic effect started 15min. after administration and persisted for 30-45min. Verbascoside was also effective against mechanical hyperalgesia after oral administration. At the doses of 300 and 600mg/kg p.o. reverted the hyperalgesia induced by both CCI and MIA injection: the antihyperalgesic effect started 15min after administration and was still significant at 60min.

References: [1] Hausmann, M. et al. (2007) Clin. Exp. Immunol. 148(2):373.

[2] Efferth, T. et al. (2007) Trends Mol. Med. 13(8):353.

[3] Akbay, P., Calis, I., et al. (2002) Phytoter. Res. 16(6):593-595.

[4] Bilia, A.R. et al. (2008)J. Pharmaceut. Biomed. 46:463.

[5] Calvo, M.I. (2006)J. Ethnopharmacol. 107:380.