A053 Isolation and anti-inflammatory effect of two cucurbitacins from *Cayaponia tayuya*

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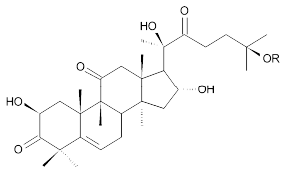
The roots of *Cayaponia tayuya* (Vell.) Cong. (Cucurbitaceae) are used in traditional medicine in South America as an anti-inflammatory in the treatment of various diseases (1). In a previous paper we demonstrated the activity of the chloroform extract (2). The aim of this study is to isolate the active principles of the extract obtained from *Cayaponia tayuya* roots.

The chloroform extract was fractionated by gel-filtration chromatography (Sephadex LH-20) using dichloromethane as a mobile phase. Two isolated compounds were identified by ^{1}H and ^{13}CNMR as 23,24-dihydrocucurbitacin B (**1**) and 23,24-dihydrocucurbitacin D (**2**). The anti-inflammatory activity of both compounds was studied in two experimental *in vivo* models of inflammation: mouse ear oedema induced by TPA and mouse paw oedema induced by carrageenan. The cucurbitacins (4 mg/Kg) and indomethacin (10 mg/Kg) were administered orally. The former reduced the TPA ear oedema significantly by 36% (**2**) and 29% (**1**), while the reference drug showed no significant activity (Dunnett's *t*-test). In the acute paw test, cucurbitacin **1**, when administered orally (5 mg/kg), inhibited the oedema by 46% and 36% at 3 h and 5 h respectively, while compound **2** failed to significantly reduce the oedema.



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23,24-Dihydrocucurbitacin B	- $COCH_3$
23,24-Dihydrocucurbaticin D	- H

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A054 The anti-inflammatory effect of 2,4,6-trimethoxy-2´-trifluoromethylchalcone, an inhibitor of NO and PGE_2 production

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Chalcones, which have been considered as flavonoids synthesis precursors, have shown to exert many biological activities, including anti-inflammatory, analgesic and antioxidant activities (1), being the majority studied 2'-hydroxychalcones derivatives. We have recently reported that some synthetic chalcone derivatives inhibit the production of inflammatory mediators and exert anti-inflammatory effects in mice (2,3). In the present study, the chalcone derivative 2,4,6-trimethoxy-2´-trifluoromethylchalcone (CH 11) was evaluated for its influence as modulator of NO and PGE_2 production, *in vitro* and *in vivo*, and for its anti-inflammatory activity in an acute and a chronic inflammatory disease models. The high-output NO and PGE_2 levels reached after lipopolysaccharide stimulation of murine macrophages RAW 264.7, were inhibited by the presence of CH 11 (IC_{50} 1,02 µM for NO production and 0,31 µM for PGE_2 generation). CH 11 markedly reduced nitrite and PGE_2 levels (54 and 50%, respectively) in exudates from 24 h zymosan-stimulated mouse air pouch model. Oral administration (25 mg/kg) of CH 11 significantly reduced carrageenan-induced mouse paw oedema, showing the greatest effect at 3 h with a 56% of inhibition. We have also assessed the possible beneficial effect of CH 11 in the treatment of a chronic inflammatory process, the rat adjuvant-induced arthritis, and we have studied the influence of this chalcone derivative on several parameters involved in the pathogenesis of this model. We have demonstrated the anti-inflammatory effect of CH 11 after oral administration (25 mg/kg, on days 17-24 after adjuvant injection) by reduction of paw oedema and the nitrite and PGE_2 levels in the inflamed tissues. In summary, this compound offers a potential interest in the treatment of inflammatory diseases.

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