SUPPLEMENTARY MATERIAL

A new anti-inflammatory β-carboline alkaloid from the hairy-root cultures of *Eurycoma longifolia*

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Abstract

One new β-carboline alkaloid 7-methoxy-(9H-β-carbolin-1-il)-(E)-2-propenoic acid (1) together with 9-methoxycanthin-6-one (2) and 9-hydroxycanthin-6-one (3) were isolated from the hairy-root cultures of *Eurycoma longifolia*. The effects of these compounds on lipopolysaccharide (LPS)-induced nitric oxide (NO) production in RAW264.7 cells were investigated. Compound 1 strongly inhibited the production of NO while 2 and 3 having weak or inactive effect. Consistently, compound 1 decreased the expression of cyclooxygenase-2 (COX-2) and inducible nitric oxide synthase (iNOS).

**Keywords:** *Eurycoma longifolia*; hairy-root cultures; β-carboline alkaloid
Figure S1. $^1$H-NMR spectrum of 1

Figure S2. $^{13}$C-NMR spectrum of 1
Figure S3. DEPT spectrum of 1

Figure S4. HSQC spectrum of 1
Figure S5. HMBC spectrum of 1

Figure S6. Inhibition of LPS-induced iNOS and COX-2 expression in RAW264.7 cells by compound 1. Cells were pretreated with compound at different concentrations for 30 min followed by stimulation with LPS (1 μg/ml) for 24 h. iNOS and COX-2 proteins in cell lysates were examined by Western blot. α-Tubulin was used as a loading control.