



APPLICATION NOTE

E181VDN-001

Isolation of Costunolide and dehydrocostus lactone from the dried petroleum ether plant extract from the roots of Saussurea lappa

Abstract

Costunolide and dehydrocostus lactone are natural products which can be derived from the roots of Saussurea lappa by extraction using petroleum ether. In the present case, the natural products were isolated from the dried extract using the described preparative chromatographic conditions. The isolated compounds were then investigated with respect to their effects on tumor cells.

Keywords

- Sesquiterpene lactone
- Costunolide
- Dehydrocostus lactone

Compound information

Classification	Compound name
Sesquiterpene lactone	Costunolide Dehydrocostus lactone

Chromatographic conditions

Column	VDSpher® 100 C18-E
Particle Size, Length × inner diameter	10 µm, 250 × 25 mm
Order number	N2553E181VDN
Separation mode descriptions	preparative, reversed phase
Mobile Phase	A: Water B: Acetonitrile
Elution conditions	Gradient 0-10 min: 84% B 10-15 min: 84% to 100% B
Flow rate	20mL/min
Injection	5mL of 40mg/mL Acetonitrile solution
Column temperature	unknown
HPLC system	Pump: Varian Prep Star (model SD-1) Detector: Dynamax absorbance detector (model UV-1)
Sample and sample preparation	Dried petroleum ether extract from the roots of Saussurea lappa Preparation: 200mg of the sample were dissolved in 5mL acetonitrile

Chromatograms

not available

Origin

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Orthopädielabor

References

“Effect of Costunolide and Dehydrocostus Lactone on Cell Cycle, Apoptosis, and ABC Transporter Expression in Human Soft Tissue Sarcoma Cells”

N. Kretschmer, B. Rinner, N. Stuendl, H. Kaltenecker, E. Wolf, O. Kunert, H. Boechzelt, A. Leithner, R. Bauer, B. Lohberger *Planta Med* **2012**, *78*, 1749-1756

DOI: 10.1055/s-0032-1315385

“Sesquiterpene Lactones Downregulate G2/M Cell Cycle Regulator Proteins and Affect the Invasive Potential of Human Soft Tissue Sarcoma Cells”

Birgit Lohberger, Beate Rinner, Nicole Stuendl, Heike Kaltenecker, Bibiane Steinecker-Frohnwieser, Eva Bernhart, Ehsan Bonyadi Rad, Annelie Martina Weinberg, Andreas Leithner Rudolf Bauer, Nadine Kretschmer *PLoS One* **2013**, *8*(6), e66300

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