studies. The ^1H NMR spectrum of (1) showed a quartet at δ 4.62 (J = 1.8 Hz) indicating the presence of a $OC(5)H_2$ group, a triplet at δ 1.79 (J = 1.8 Hz) assigned to $CH_3C(3)$ = group, and signals in agreement with the protons of a 2-hydroxyheptyl side chain. The ^{13}C NMR spectrum of (1) exhibited 12 carbon atoms possessing complexity and chemical shifts in agreement with the proposed structure. The compound (1) was reduced to the corresponding dihydroderivative by catalytic hydrogenation on Pd/$BaSO_4$ and to a trihydroxy olefin by $LiAlH_4$. These results were in agreement with the presence of an α,β-unsaturated γ-lactone. The formation of a monoacetyl derivative accounts for the presence of a hydroxy group.

Iso-seiridin also had the molecular formula $C_{12}H_{20}O_3$ from high resolution mass spectral data, m/z 212.1399 (calc. 212.1413) and an optical rotation $[\alpha]_D^{25} = -6.28°$ (c = 3.04 $CHCl_3$). Its ^1H and ^{13}C NMR spectra were similar to those of (1). In addition, the inspection of the corresponding three derivatives prepared from (1) showed that (2) is a structural isomer of (1) carrying a 3-hydroxyheptyl side chain. The feature which differentiates (1) from (2) was further supported by ^1H NMR decoupling experiments in the presence of the shift reagent $Eu(fod)_3$. Furthermore, the occurrence of a peak at m/z 197.1185 (M^+-CH_3, $C_{11}H_{17}O_3$) in the high resolution mass spectrum of (1) and at m/z 183.1028 (M^+-CH_2CH_3, $C_{10}H_{15}O_3$) in that of (2) is consistent with the position of the hydroxy group in the side chain of (1) and (2).

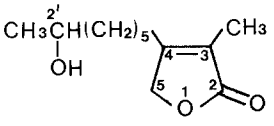
The phytotoxicity of culture filtrates, extracts and pure substances was tested on severed twigs of cypresses (*C. sempervirens, C. arizonica* Gr. and *C. macrocarpa* Hartw.), as well as on cuttings of young tomato (*Lycopersicum esculentum* L.) and basil (*Ocymum basilicum* L.) plants[9]. Samples of culture filtrate were assayed after 1:1000 dilution; crude extracts and pure substances were tested at a concentration of 3.0 and 0.3 mg/ml, respectively. The test plants were placed for 24 h in the assay solution and then transferred into water. Extensive leaf chlorosis and subsequent necrosis occurred within 4 days on tomato and basil cuttings, and within 14 days on excised cypress twigs; the controls, which had absorbed either an equivalent dilution of the culture medium or distilled water, showed no symptoms.

Seiridin appeared to be 2–3 times more toxic than *iso*-seiridin. The highest symptom intensity was reached when a mixture of the two toxins (0.3 mg/ml each) was supplied to test plants.

In preliminary experiments with species of *Pseudomonas* Mig. and *Bacillus* Cohn, both substances showed significant antibacterial activity.

Among but-3-enolides, which are relatively common as natural products, several are produced by fungi[11], but 3,4-disubstituted derivatives are rare. To our knowledge, the 3-butyl-4-methyl-furan-2(5H)-one[12] produced by *Hypoxylon serpens* (Pers. ex Fr.) Kicks is the fungal metabolite closest to seiridin.

The results of this study strongly support the view that fungal toxins are involved in the syndrome of cypress canker disease.



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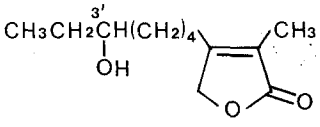

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Announcements

Courses

In the series 'Current Advances in Laboratory Techniques' the Royal Postgraduate Medical School of the University of London is organizing courses on the following topics:
Endocrine Pathology, 24–28 November 1986;
Monoclonal Antibodies, 1–5 December 1986;
Immunocytochemistry in Cytopathology: Methods and Applications, 8–12 December 1986;
Immunolabeling for Electron Microscopy, 26 January–6 February 1987;
Modern Immunocytochemistry, 16–27 February 1987;
Techniques in Human Molecular Genetics, 30 March–3 April 1987;
Hybridization Histochemistry, 6–10 April 1987.
Details and application forms are available from:
Professor Julia M. Polak, Histochemistry Unit, or the appropriate Course Organizers at the Royal Postgraduate Medical School, Hammersmith Hospital, Du Cane Road, London W12 0HS, U.K.

Italy

International congress on 'The biological and clinical aspects on phygocyte function'

Pavia, September 7–10, 1986

The scientific program covers the following topics:
- Leukocyte random locomotion, chemotaxis, chemokinesis;
- Membrane metabolism;
- Pharmacological manipulation and immunomodulation of phagocyte function;
- Genetic control of phagocyte function;
- The role of phagocyte in inflammation;
- Leukotrienes, prostaglandins, chemotaxis and phagocyte function;
- Membrane chemotactic and phagocyte function;
- Clinical aspects of phagocyte disorders.

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