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AKIRADIN, A NEW ALKALOID FROM *Aconitum kirinense*

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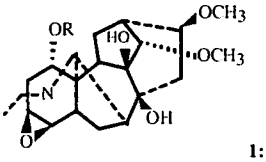
We continued the separation of total alkaloids of *Aconitum kirinense* Nakai [1] by isolating a new base called akiradin (**1**). Akiradin has mp 108-110°C (ether) and $C_{24}H_{35}NO_7$. The IR spectrum recorded on a Perkin—Elmer model 2000 Fourier spectrometer in KBr pellets has absorption bands (ν, cm^{-1}): 3648, 3628, 3481, 2966, 2818, 1732, 1652, 1456, 1375, 1246, 1222, 1185, 1126, 1080, 1023, 977, 957, 936, 902, 868, 802, 754, 709, 608, and 504.

The PMR spectrum of akiradin in $CDCl_3$ recorded on a Tesla BS-567 (100 MHz) spectrometer with HMDS internal standard shows signals (δ, ppm): 1.01 (3H, t, J = 7 Hz, N-CH_2CH_3), 2.00 (3H, s, $OCOCH_3$), 3.24 and 3.33 (3H each, s, 2 × OCH_3), 3.54 (1H, br. s), 5.07 (1H, dd, J = 6 Hz, J = 3.5 Hz). The mass spectrum has the following peaks, *m/z* (%): M^+ 449 (16), 434 (12), 432 (3), 418 (8), 406 (5), 390 (100), 374 (5), 372 (4), 358 (5). The mass spectrometric fragmentation and PMR spectra suggest that akiradin is an alkaloid with the lycoctonin skeleton.

Basic hydrolysis of akiradin (**1**) produced an aminoalcohol identical to excelsine (**2**) [2]. The presence of a peak for [M^+ - 59] in the mass spectrum in addition to the multiplicity and spin—spin coupling constant of the geminal acetoxy proton (5.07 ppm, dd, J_1 = 6 Hz, J_2 = 3.5 Hz) in the PMR spectrum of **1** suggests that akiradin is 1-acetylexcelsine, which was previously obtained synthetically [3]. Acetylation of **2** with acetic anhydride in the presence of pyridine produced 1-acetylexcelsine, which is identical to **1** according to mixed melting points, TLC analysis, and mass, PMR, and IR spectra. This confirms the hypothesis.



1: R=$COCH_3$
2: R=H

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