

showed an intense ion at  $m/z$  260.0901 deriving from the molecular ion by loss of  $\text{CH}_3\text{COOH}$  and  $\text{CH}_3\text{-N=C=O}$ .  $^{13}\text{C}$ -NMR is fully consistent with structure **1**: [ $\delta$  161.00, (C-2), 175.64 (C-4), 151.76 (C-6), 149.27 (C-7), 154.24 (C-9), 125.20 (C-10), 29.10 (C-11), 76.53 (C-1'), 69.42 (C-2'), 18.86 (C-3')] [12]. Finally a gated decoupling experiment confirmed the proposed structure as being in complete agreement with the above assignments; particularly the multiplicity of the carbonyl signal at  $\delta$  175.64, which appeared as a quartet ( $J = 6.5$  Hz), further supports the positioning of the  $\text{CH}_3$  group at N-3.

Definitive proof for the structure **1** including the stereochemistry at C-1' and C-2' was obtained by the partial synthesis starting from L(-)-biopterin, which was treated with diazomethane in  $\text{MeOH}/\text{Et}_2\text{O}$  solution at room temperature for 30 min.

2-Amino-6-[(1'R, 2'S)-1', 2'-dihydroxypropyl]-3-methyl-pterin-4-one exhibits a growth-inhibiting activity. A strong effect was observed when **1** was added (concentration  $1 \times 10^{-3}$  mM) to two bacterial cell cultures, as illustrated in the diagram of figure 1, where only controls grow to confluence. This result fully agrees with the behavior of many pteridine derivatives, whose effect on growth is clearly related to their structural relationship with folate derivatives which occupy key positions in cellular metabolism.

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- 9  $^1\text{H}$ -NMR of **2** in  $\text{CDCl}_3$ :  $\delta$  1.99 (3H, s,  $\text{CH}_3\text{COO-}$ ); 2.15 (3H, s,  $\text{CH}_3\text{COO-}$ ); 2.30 (3H, s,  $\text{CH}_3\text{CON-}$ ); 8.69 (1H, bs, H-7); 6.01 (1H, d,  $J = 5.5$  Hz, H-1'); 5.44 (1H, dq,  $J = 5.5$  and 6.5 Hz, H-2'); 3.61 (3H, s,  $\text{CH}_3\text{-N}$ ); 1.26 (3H, d,  $J = 6.5$  Hz,  $\text{H}_3\text{-3'}$ ).
- 10 High-resolution mass spectra fragments of **2**:  $m/z$  317.119 (2%),  $\text{M}^+-\text{AcOH}$ ; 302.0909 (4),  $\text{M}^+-\text{AcOH-CH}_3$ ; 291.0953 (22),  $\text{M}^+-\text{CH}_2=\text{CHOAc}$ ; 275.0999 (88),  $\text{M}^+-\text{AcOH-CH}_2=\text{C=O}$ ; 260.0901 (20),  $\text{M}^+-\text{AcOH-CH}_3\text{-N=C=O}$ ; 259.1066 (36),  $\text{M}^+-2\text{AcOH}$ ; 249.0851 (100),  $\text{M}^+-\text{CH}_2=\text{CHOAc-CH}_2=\text{C=O}$ ; 244.0846 (95),  $\text{M}^+-2\text{AcOH-CH}_3$ . Mass spectra were taken on AEI-902 instrument.
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- 12 Spectra were recorded on a Bruker WM-250 spectrometer in DMSO. The assignments of the protonated carbon atom were based on  $^{13}\text{C}$ - $^1\text{H}$  shift correlation 2D-NMR spectroscopy via  $^1\text{J}$  couplings which showed interrelation of all the protonated carbons with the pertinent proton(s); the shift correlation with polarization transfer via J-coupling experiments were performed using a Bruker microprogram adjusting the fixed delays  $D_3$  and  $D_4$  to give maximum polarization for  $J_{\text{C-H}} = 135$  Hz. The assignments of the remaining carbon atoms were based on comparison with the 2-amino-4-pteridinones, whose  $^{13}\text{C}$ -NMR data were previously reported [13], and on the results of the gated decoupling experiment.
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## Announcements

### Friedrich Miescher-Award 1988

To commemorate the 100-year anniversary of the discovery of nucleic acids the Swiss Society for Biochemistry has created the Friedrich Miescher-Award. This prize is intended to honor young biochemists and is donated by the Friedrich Miescher-Institute of Ciba Geigy Inc. in Basel.

Excerpts from the statutes:

1. The Friedrich Miescher-Award will be awarded once every two years to a young scientist for outstanding achievements in biochemistry.
2. Preference will be given to candidates not older than 35 years. Eligibility extends only to candidates not exceeding their 40th year.
3. The scientific work must have been carried out in Switzerland or by Swiss scientists abroad.

Applications or nominations of candidates should be submitted by **November 1, 1987** to the secretary of the Swiss Society for Biochemistry:

Dr. L. Kühn, Swiss Institute for Experimental Cancer Research, 155, ch. des Boveresses, CH-1066 Epalinges s. Lausanne, Switzerland.