

band. In a typical run, 100 g of anterior genital mass yielded 11 mg of aplysianin-A.

The aplysianin-A obtained showed similar physiological activity to that of aplysianin-E, an active factor in eggs. It showed a 50% inhibition of *B. subtilis* growth at a concentration of 4 µg protein/ml. The concentration required for 50% lysis of murine MM46 tumor cells was as low as 14 ng protein/ml. Physicochemical properties were, on the other hand, quite different from those of aplysianin-E.

Aplysianin-E is a glycoprotein (8% neutral sugar content) of 250 kD and is composed of three distinct subunits which have molecular weights of 76, 88, and 102 kD, respectively<sup>6</sup>. In contrast, the molecular weight of aplysianin-A was estimated to be approximately 320 kD by high speed gel-filtration on Toyo Soda TSK G-3000SW. In SDS-polyacrylamide disc gel electrophoresis it showed a major band corresponding to 85 kDa with or without 2-mercaptoethanol (fig. 2B). The ratio of the molecular weight of the intact aplysianin-A to dissociated proteins was very close to 4. In isoelectric focusing, it gave a single band at pI 4.7 (fig. 2D). The neutral sugar content was determined to be 9.8% by phenol-sulfuric acid method using glucose as a standard. The amino acid composition of aplysianin-A is listed in the table. The absence of half cystine suggested that the subunits are linked by non-covalent bonds. In spite of these physicochemical differences, a similarity of the molecule to aplysianin-E was found by immunological tests using rabbit antiserum against aplysianin-E. As seen in figure 3, Ouchterlony double-diffusion tests showed the spur of a cross reaction suggesting that aplysianin-A was partly identical in antigenic specificity with aplysianin-E.

The antibacterial activity of the aplysianins was found to be resistant to treatment with proteinases, such as trypsin, papain, and pronase. The aplysianins did not show significant inhibitory activity against these proteinases. It is of interest from the comparative physiological point of view that certain prosobranch snails are known to possess polyvalent inhibitors of proteinases, as well as agglutinins in albumen gland<sup>7,8</sup>, whereas the sea hare, an opisthobranch mollusc, contains potent antibacterial glycoproteins in the albumen gland. The physiological function of aplysianins remains unknown.

- 1 Acknowledgment. We are indebted to the staff of Fisheries Research Laboratory, Faculty of Agriculture, University of Tokyo, Maisaka, for the collection of sea hares.
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## Announcements

### Switzerland

#### 23rd EUCHEM conference on stereochemistry

*Bürgenstock, near Lucerne, May 3-9, 1987*

The conference covers a wide range of topics in chemistry with emphasis on its interdisciplinary character in natural sciences. Inquiries and applications (no special forms are required) should be addressed, before January 10, 1987, to the President, Prof. D. Seebach, Laboratorium für Organische Chemie, ETH-Zentrum, CH-8092 Zürich/Switzerland.

### Hungary

#### International Society for Heart Research

*Budapest, September 13-16, 1987*

The main topics of this 8th European Section Congress will be: Endothelial control of myocardial circulation; Physiology and pathophysiology of cardiac membranes; Theoretical and clinical aspects of arrhythmias; Diabetic heart; Biochemistry and electrophysiology in reperfusion.

Detailed information by G. Pogatsa, Research Department, National Institute of Cardiology, P.O. Box 9-00, H-1450 Budapest/Hungary.

### Romania

#### 4th international conference on water and ions in biological systems

*Bucharest, 24-28 May 1987*

For information, please contact Prof. V. Vasilescu, Romanian Biophysical Society, c/o Union of the Societies for Medical Sciences, str. Progresului 10, R-70754 Bucharest/Romania.

### 4th Basel Psi Days 86

*Basel, October 30-November 2, 1986*

Ethnopsychology – a new scientific discipline? 'Exotic Psi – the paranormal in alien cultures' is the title of this year's International Congress on Interdisciplinary Discussion of Border Area Problems of Science.

The detailed program of the Basel Psi Days 86 is being compiled under the guidance of Prof. Dr. Manfred Schuster, Head of the Ethnological Institute of the University of Basel. It will contain a first, theoretical part (30/31.10.) whilst the second, practical part (1./2.11.) will comprise workshops for the demonstration and discussion of paranormal phenomena in alien cultures. Sensitive subjects from all the continents of the world are expected to join in these demonstrations. The program is available from the Secretariat Basel Psi Days 86, c/o Congress Service, Swiss Industries Fair, P.O. Box, 4021 Basel, Switzerland, telephone 061/26 20 20, telex 962 685 smm-ch, telefax 061/32 06 17.

### Courses

#### Mexico

#### International training course on biological membranes: Principles, techniques and application to parasitic diseases

*Mexico City, October 13-25, 1986*

Information by Dr Armando Gomez-Puyou, Universidad Nacional Autonoma de México, Instituto de Fisiología Celular, Apartado Postal 70-600, 04510 México, D.F., México.