

AUTHOR INDEX

March 15, 1989

- Abou-El-Ela, S. H., 1434
 Albain, K. S., 1382
 Allison, D. C., 1456
 Anderson, M. J., 1572
 Anderson, S., 1456
 Andrews, J. T., 1600
- Baker, S. R., 1361
 Balercia, G., 1578
 Barnes, D. M., 1382
 Bartholomew, M., 1371
 Beatty, B. G., 1587
 Beatty, J. D., 1587
 Becker, T. M., 1595
 Bergerheim, U., 1390
 Binns, D., 1600
 Boorstein, R. J., 1509
 Borden, E. C., 1609
 Bose, K. K., 1456
 Brady, J. F., 1470
 Braun, L., 1554
 Bravo-Cuellar, A., 1578
 Bronzert, D., 1515
 Brünner, N., 1515
 Bunce, O. R., 1434
 Butti, G., 1505
- Carbone, M., 1565
 Carey, T. E., 1361
 Carroll, R. W., 1434
 Castelli, M. G., 1505
 Channey, S. G., 1402
 Cheng, Y.-c., 1366
 Chiabrando, C., 1505
 Collins, J. P., 1600
 Collins, V. P., 1390
 Comoglio, P. M., 1415
 Cossman, J., 1422
 Cowan, K. H., 1422
 Curley, S., 1456
- Demers, L., 1371
 Demuth, S., 1429
 Dixon, K., 1565
 Duanmu, C., 1344
- Erickson, L. C., 1382
 Everts, R. P., 1541
- Fairchild, C. R., 1422
 Fanelli, R., 1505
 Farrell, R. L., 1434
 Fausto, N., 1554
- Fisher, R. I., 1382
 Fisher, S. G., 1382
- Gaetani, P., 1505
 Garrino, C., 1415
 Geiser, A. G., 1572
 Gibbons, G. R., 1402
 Glikman, P., 1371
 Gopalan, P., 1357
 Gudas, L. J., 1497
- Hamel, E., 1344
 Hanna, N., 1429
 Hawkins, M. J., 1609
 Hayashi, O., 1548
 Hiserodt, J. C., 1441
 Ho, H. H., 1344
 Ho, L. L., 1357
 Hofstadter, F., 1397
 Hwang, B.-D., 1366
- Ishizaki, H., 1470
- Jaspers, N. G. J., 1481
 Jaxel, C., 1465
 Jefferson, W. E., 1486
 Jenkins, W. E. A., 1397
 Jhee, E.-C., 1357
- Keenan, K. P., 1521, 1528
 Kelly, M., 1548
 Key, C. R., 1595
 Khor, H. T., 1447
 Kishimoto, S., 1377
 Knuchel, R., 1397
 Kohn, K. W., 1465
 Krause, C. J., 1361
 Krosnick, J. A., 1408
- Lee, M., 1470
 Levesque, J. P., 1578
 Levine, A. S., 1565
 Lewis, A. M., Jr., 1565
 Lichtenstein, M., 1600
 Liehr, J. G., 1475
 Lippman, M. E., 1515
 Liu, S.-y., 1366
 Liu, X. H., 1578
 Liu, Z.-c., 1366
 Lotlikar, P. D., 1357
- Madden, M. J., 1422
- Majumdar, G., 1486
 Manni, A., 1371
 Marsden, E., 1541
 Martelli, L., 1505
 Masters, J. R. W., 1397
 Matsumoto, K., 1377
 Matthews, B.-J., 1565
 McDowell, E. M., 1521, 1528
 McIntosh, J. K., 1408
 McKenzie, I. F. C., 1600
 Medisco, E., 1415
 Mikumo, R., 1554
 Mivechi, N. F., 1492
 Moscow, J. A., 1422
 Motté, P., 1349
 Mulé, J. J., 1408
 Myers, C. E., 1422
- Nagy, P., 1541
 Naito, M., 1452
 Nakatsukasa, H., 1541
 Natarajan, A. T., 1481
 Nishii, K., 1377
 Nishizawa, Y., 1377
 Nordenskjöld, M., 1390
- O'Brien, E. E., 1422
 O'Connor-Tressel, M., 1587
 Ogilvie, P. D., 1492
 Old, L. J., 1341
 Ong, A. S. H., 1447
 Ootsuyama, A., 1562
 Orbach-Arbouys, S., 1578
 Osculati, F., 1578
 Oyasu, R., 1548
 Ozturk, M., 1349
- Paoletti, P., 1505
 Pathmanathan, R., 1447
 Paxton, R. J., 1587
 Pommier, Y., 1465
 Poplack, D. G., 1422
 Prasse, K. W., 1434
 Prat, M., 1415
- Ransom, D. T., 1422
 Richter, D. E., 1361
 Riggs, C. W., 1521, 1528
 Robins, H. I., 1609
 Robertson, J., 1456
 Rosenberg, S. A., 1408
 Rossino, P., 1415
 Roy, D., 1475
- Russell, I. S., 1600
 Rygaard, K., 1515
- Saffiotti, U., 1521, 1528
 Samet, J. M., 1595
 Sato, B., 1377
 Scalise, D., 1361
 Schwartz, D. R., 1361
 Schwarz, R. E., 1441
 Shahrck, L. K., 1344
 Sharma, R. K., 1486
 Shively, J. E., 1587
 Sielaff, K. M., 1609
 Simons, J. W. I. M., 1481
 Spang-Thomsen, M., 1515
 Srivastava, P. K., 1341
 Stanbridge, E. J., 1572
 Stinson, S. F., 1521, 1528
 Stoner, C. M., 1497
 Storer, B., 1609
 Sundram, K., 1447
 Swinnen, L. J., 1382
- Tjandra, J. J., 1600
 Takahashi, H., 1349
 Tanooka, H., 1562
 Teebor, G. W., 1509
 Thorgeirsson, S. S., 1541
 Tsuji, K., 1357
 Tsuruo, T., 1452
- Utsugi, T., 1429
- van der Schans, G. P., 1481
 Vindeløv, L. L., 1515
 Vlock, D. R., 1361
 Vujanovic, N. L., 1441
- Wade, A. E., 1434
 Wahl, G. M., 1333
 Wall, M. E., 1465
 Wands, J. R., 1349
 Wani, M. C., 1465
 Wieand, H. S., 1422
 Wiggins, C. L., 1595
 Williams, L. E., 1587
 Wilson, B. E., 1349
 Wyrick, S., 1402
- Yang, C. S., 1470
 Yura, Y., 1548
- Zdzienicka, M. Z., 1481



AMERICAN ASSOCIATION FOR CANCER RESEARCH

GUIDELINES FOR APPLICATION FOR ASSOCIATE MEMBERSHIP

QUALIFICATIONS FOR MEMBERSHIP

Associate membership is open to graduate students, medical students, postdoctoral fellows, and physicians in training who live in the Americas and who are following a course of study or who are working in a research program relevant to cancer.

BENEFITS OF MEMBERSHIP

The American Association for Cancer Research (AACR), a scientific society consisting of laboratory and clinical cancer researchers, was founded in 1907 "to bring together active investigators of the cancer problem for presentation and discussion of new or significant observations; and to foster research in cancer and other phenomena of growth." Associate members of the AACR enjoy the following benefits:

1. the privilege of sponsoring an abstract for presentation at the AACR annual meeting provided that (a) the associate member is the presenter of the abstract and (b) an active member in good standing of the AACR also signs the abstract in support of the work (In this instance, the active member who co-signs the abstract does not lose his or her own sponsorship privilege.);
2. an advance copy of the Program and (if one has been purchased by the associate member) the *Proceedings of the American Association for Cancer Research* which contains abstracts of all papers being presented at each annual meeting;
3. the privilege of registering for the annual meeting at the low student rate (This rate is otherwise available only to predoctoral students.);
4. preferred access to the AACR Employment Register;
5. an optional subscription to the journal *Cancer Research* at the reduced member rate;
6. subscriptions to any future AACR journals at reduced member rates;
7. early notification of events in the AACR's new series of small scientific meetings on timely scientific topics;
8. the receipt of AACR newsletters, meeting announcements, and an up-to-date membership directory; and
9. the facilitation of informal scientific exchange with leading researchers in the cancer field.

PROCEDURES FOR APPLICATION

Persons wishing to apply for associate membership must use the official application form on the reverse side of these instructions. Each candidate for associate membership must be nominated by an active member in good standing of the AACR. Three completed copies of the form should be submitted; at least one of these copies must carry the original signatures of both the candidate and the active member nominator. The application form may be submitted

to the Association Office at any time. After review of applications for associate membership, the Executive Director will notify candidates of their election or deferral within one month of the receipt of the application form. A check in the amount of \$20, which represents one year's dues payment, must accompany the application. This fee will be refunded to any candidate deemed to be ineligible for associate membership. Checks should be in U.S. currency, made payable to AACR, Inc., and drawn on a U.S. bank. Send the three copies of the application form and the \$20 dues payment to:

American Association for Cancer Research
530 Walnut Street - 10th Floor
Philadelphia, PA 19106
215/440-9300

RESPONSIBILITIES OF MEMBERSHIP

Associate members must pay annual dues in an amount to be determined by the AACR Board of Directors. Dues for 1989 have been set at \$20 per year. If an application is submitted by August 31, the accompanying dues payment will be credited to the current year. Candidates submitting applications between September 1 and December 31 may indicate whether they wish their dues payments credited to the current or forthcoming year. Candidates should be aware, however, that associate members may sponsor an abstract for the annual meeting only if their dues for the current year are paid. For example, an associate member submitting an abstract in December 1989 for the forthcoming annual meeting must have paid dues for 1989. Any newly elected associate members of AACR who have already purchased subscriptions to *Cancer Research* at the higher, nonmember rate will receive a refund for the unused portion of that subscription upon receipt of their payment for a member's subscription.

Each Fall the AACR will send to current associate members an invoice for dues for the forthcoming year. Payment of this invoice must be accompanied by a statement signed by the associate member's registrar, dean, or department head, verifying the member's current academic status. The Association's By-Laws state that dues are payable for each year in advance on or before January 1 of that year. An individual may be an associate member for a maximum of five years. Each year in which an individual pays dues will count as one full year of associate membership. Thus, an associate member who pays dues for 1989 may retain associate membership until December 31, 1993. The Board of Directors may terminate the membership of any associate member whose dues are in arrears for two years.

Margaret Foti,
Executive Director

AMERICAN ASSOCIATION FOR CANCER RESEARCH, INC.

530 Walnut Street - 10th Floor

Philadelphia, PA 19106

APPLICATION FOR ASSOCIATE MEMBERSHIP

NAME OF CANDIDATE: _____ DATE OF BIRTH: _____

INSTITUTIONAL AFFILIATION: _____

INSTITUTIONAL ADDRESS: _____

(City) (State/Province) (Postal Code) (Country)

TELEPHONE NUMBER: _____ SOCIAL SECURITY NUMBER: _____

PRESENT ACADEMIC STATUS/TITLE: (Please check only one):

____ Graduate Student ____ Medical Student
____ Physician in Training ____ Postdoctoral Fellow

PRIMARY FIELD OF RESEARCH (Please check only one):

____ Biochemistry and Biophysics ____ Biostatistics ____ Carcinogenesis
____ Cellular Biology and Genetics ____ Clinical Investigations ____ Endocrinology
____ Epidemiology ____ Immunology ____ Molecular Biology and Genetics
____ Preclinical Pharmacology and Experimental Therapeutics
____ Virology ____ Other: _____

(Please specify)

ACADEMIC DEGREES (Please indicate degree(s) acquired to date along with the name of the academic institution and date of receipt. Provide information on degree currently being sought and the anticipated date of completion of this degree program.)

RELEVANT RESEARCH EXPERIENCE NOT RELATED TO COURSE WORK (Please list most recent first.)

PUBLICATIONS (List the authors, title, journal, volume, inclusive pages, and year of any article in a peer-reviewed journal on which the candidate appears as an author. Do not list abstracts. Continue on a separate sheet, if necessary.)

CANDIDATE NOMINATED BY: _____

(Please type or print name of AACR active member in good standing.)

SIGNATURES

I hereby apply for associate membership in the American Association for Cancer Research. I have read the instructions on the reverse side of this form, and I understand the privileges and responsibilities of this class of membership. I certify that the statements on this application are true.

Signature of Candidate: _____ Date: _____

I recommend this candidate for associate membership in the American Association for Cancer Research. To the best of my knowledge, the candidate is qualified for this class of membership, and the statements on this application are true.

Signature of Nominator: _____ Date: _____

Submit three copies of this form. At least one copy must contain the original signatures of the candidate and the nominator. Enclose a check for \$20 in U.S. funds made payable to AACR, Inc. and drawn on a U.S. bank. Check *one* of the following boxes *only* if this form is being submitted between September 1 and December 31:

The enclosed dues payment should be applied to the

current forthcoming calendar year.

(NOTE: If dues are applied to the forthcoming year, membership will take effect on January 1.) See Guidelines for Application on the reverse side of this form for further instructions.

(This form may be reproduced.)



AMERICAN ASSOCIATION FOR CANCER RESEARCH

EIGHTIETH ANNUAL MEETING

May 24-27, 1989
Moscone Convention Center
San Francisco, California

ADVANCE REGISTRATION FORM (please print or type)

NAME: _____
Last First/Middle Initial

ADDRESS: _____
Institution

_____ Street, Building, or Post Office Box

_____ City State or Province Postal Code

_____ Country (if not U.S.) Telephone

WHAT IS YOUR PRIMARY FIELD OF RESEARCH (Please check only one):

- ¹Biochemistry and Biophysics ²Biostatistics ³Carcinogenesis ⁴Cellular Biology & Genetics ⁵Clinical Investigations
 ⁶Endocrinology ⁷Epidemiology ⁸Immunology ⁹Molecular Biology ¹⁰Preclinical Pharmacology & Experimental Therapeutics
 ¹¹Virology ¹²Other (please specify): _____

ARE YOU THE PRESENTER OF AN ABSTRACT SUBMITTED FOR THE 1989 AACR MEETING? Yes No

ON WHICH DAYS WILL YOU ATTEND THE 1989 AACR ANNUAL MEETING?

- Wednesday, May 24 Thursday, May 25 Friday, May 26 Saturday, May 27

WILL YOU ATTEND THE ASCO MEETING IN SAN FRANCISCO? Yes No

ON WHICH DAYS WILL YOU ATTEND THE 1989 ASCO ANNUAL MEETING?

- Sunday, May 21 Monday, May 22 Tuesday, May 23

PAYMENT OF REGISTRATION

Fees may be paid by check or with a MasterCard, VISA, or Eurocard account. All payments must be made in U.S. currency, and all checks must be drawn on a U.S. bank. Payment must accompany this form; purchase orders will not be accepted as payment. Honorary and emeritus members may register gratis.

FEES

- Active/Corresponding Member Rate \$ 55
 Honorary/Emeritus Member Rate \$ 0
 Nonmember Rate \$100
(includes a copy of AACR *Proceedings*)
 Student/Associate Member Rate* \$ 25
(does not include a copy of AACR *Proceedings*)
 AACR *Proceedings*† \$ 20
Total Enclosed or Charged _____

METHOD OF PAYMENT

If you are paying by check, please supply

Person/Institution issuing check Check No.

If you are paying by MasterCard, VISA, or Eurocard, please supply

Card Name, Account Number, and Expiration Date

Signature

THE DEADLINE FOR ADVANCE REGISTRATION IS MARCH 31, 1989

*Students must enclose a statement, signed by the registrar, dean, or department head of their university or college on official letterhead, confirming their status. Special student rates are available only to predoctoral students. Postdoctoral fellows or physicians in training do not qualify for the student registration rate unless they are associate members of the AACR. An application for associate membership may accompany this form, but these should be submitted well before the advance registration deadline as review of the associate membership application may delay registration.

†AACR members with paid-up subscriptions to *Cancer Research* receive the *Proceedings* automatically. Members who check this box and pay the \$20 fee will receive an additional copy of the *Proceedings*.

Mail all advance registration forms with applicable fees to Annual Meeting Registration, American Association for Cancer Research, Inc., 530 Walnut Street - 10th Floor, Philadelphia, PA 19106. Receipts will be sent to you in April. AACR members in good standing will receive copies of the Program and *Proceedings* prior to the meeting. Nonmember and student advance registrants residing in the U.S. and Canada will also receive the Program before the meeting and (if they have purchased it) the *Proceedings*. Please note that nonmember registrants receive a copy of the *Proceedings* automatically, but if students are to receive a copy of this document before the meeting, it must be purchased at the time of advance registration.

REFUND POLICY

Refunds on registration fees will be granted on written request received in the AACR Office by May 22, 1989. Requests received after this date will not be honored. Receipts and badges (if they have been mailed) must be returned to the AACR Office with the refund request. A cancellation fee of \$15.00 will be deducted from all refunds to cover administrative costs. *Proceedings* are not returnable, and an additional \$20 will be deducted from refunds to nonmembers and students if this document has already been mailed.

PRELIMINARY ANNOUNCEMENT

THE CELL MEMBRANE AND CELL SIGNALS AS TARGETS FOR CANCER CHEMOTHERAPY

Queens' College, Cambridge, U.K.

September 14-16, 1989



sponsored by
American Association for Cancer Research
European Organisation for Research and Treatment of Cancer (Pharmacology and Metabolism Group)
British Association for Cancer Research

ORGANIZING COMMITTEE

Co-Chairmen

Garth Powis, Mayo Clinic and Foundation, Rochester, USA

John A. Hickman, Aston University, Birmingham, UK

AACR

Edward J. Modest, Bowman Gray School of Medicine, Winston-Salem, USA
Garth L. Nicolson, UT-M. D. Anderson Cancer Center, Houston, USA
Thomas R. Tritton, University of Vermont, Burlington, USA

EORTC (PAM)

Paul Workman, MRC Clinical Oncology and Radiotherapeutics Unit, Cambridge, UK
Jean-Pierre Abita, Institut de Recherche sur les Malades du Sang, Paris, France
Timothy J. Rink, Smith, Kline & French Research Ltd., Welwyn, UK
Wolfgang Berdel, Technical University, Munich, FRG

BACR

Anne P. Simmonds, Kirby-Warwick Pharmaceuticals, Bury St. Edmunds, UK

AIMS

This conference will explore one of the most promising areas of anticancer drug research today: the concept that cytotoxic drugs might act at the cell surface or on the intracellular signalling cascades. In the past two to three years there has been an explosion of knowledge about the role of cell surface receptors and intracellular signalling mechanisms. Furthermore, the recent advances in cell and molecular biology make it possible, for the first time, to think of targeting anticancer drugs at specific sites of difference between normal and tumor cells.

SPEAKERS

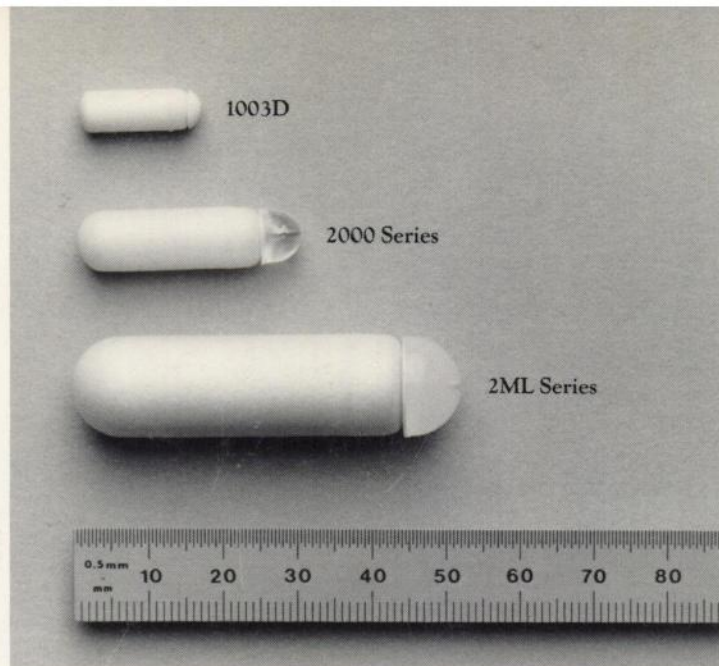
Jean-Pierre Abita
Wolfgang Berdel
Michael Berridge, University of Cambridge, UK
Michael D. Cahalan, University of California, Irvine, USA
Dennis Chapman, University of London, UK
David Clapham, Mayo Clinic and Foundation, Rochester, USA
Benjamin de Kruijff, University of Utrecht, Netherlands
T. Michael Dexter, Holt and Christie Radium Institute, Manchester, UK
Peter Downes, Smith, Kline & French Research Ltd., Welwyn, UK
Janet G. Dzubow, E. I. du Pont de Nemours & Co., Glenolden, USA
Gordon Foulkes, Oncogene Science, Inc., Manhasset, USA
Andreas Gescher, Aston University, Birmingham, UK
Yosef Graziani, Ben Gurion University of the Negev, Beer Sheeva, Israel
Hans H. Grunicke, Institute for Medicinal Chemistry and Biochemistry, Innsbruck, Austria
Ian R. Hart, Imperial Cancer Research Fund, London, UK

John A. Hickman
Marc Mareel, University Hospital, Ghent, Belgium
Christopher Marshall, Institute of Cancer Research, London, UK
Edward J. Modest
Wouter Moolenaar, Netherlands Cancer Institute, Amsterdam, Netherlands
Harold L. Moses, Vanderbilt University School of Medicine, Nashville, USA
Garth L. Nicolson
Ewa Ninio, INSERM, Clermont, France
Alexander Noseda, Mario Negri Institute for Pharmacological Research, Milan, Italy
Sten Orrenius, Karolinska Institute, Stockholm, Sweden
Peter J. Parker, Ludwig Institute for Cancer Research, London, UK
Garth Powis
Timothy J. Rink
Enrique Rozengurt, Imperial Cancer Research Fund, London, UK
Thomas R. Tritton
Michael D. Waterfield, Ludwig Institute for Cancer Research, London, UK

CONFERENCE SECRETARIATS

American Association for Cancer Research
530 Walnut Street, 10th Floor
Philadelphia, PA 19106
USA
215-440-9300
FAX: 215-440-9313

British Association for Cancer Research
c/o Institute of Biology
20 Queensberry Place
London SW7 2DZ, UK
01-581-8333



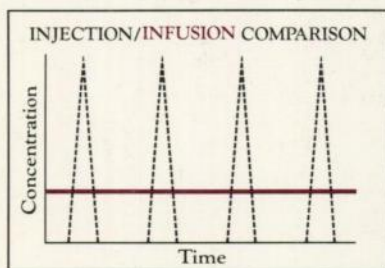
PUMPS SHOWN ACTUAL SIZE

GETTING OUR NEW OSMOTIC PUMP THIS SMALL WAS NO SMALL EFFORT.

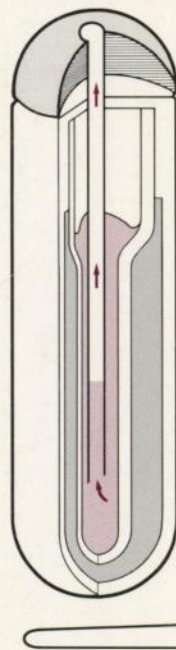
It was a small miracle.

Because now, after several years of intensive research and development, the new ALZET® Micro-Osmotic Pump is ready to help you with small animal research.

This new micropump, Model 1003D, can be successfully used in mice and other animals weighing as little as 10 grams. The 1003D provides the same quality drug delivery as our larger osmotic pumps. It has a 100 μ l capacity and pumps at 1 μ l/hr for three days.

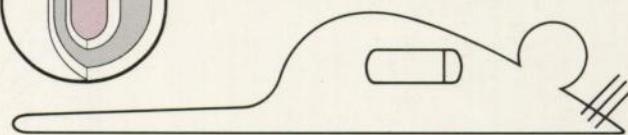


Only ALZET osmotic pumps offer you an opportunity for continuous, controlled delivery to help evaluate your drug in the steady state. They accomplish this without the trauma of injection-induced stress that can interfere



with your test results.

Call our Technical Information Line today for additional details about the ALZET Micro-Osmotic Pump at 800-692-2990 (in California and Canada call collect 415-494-5323). For price and ordering information, please call 800-227-9953 (in California and Canada call collect 415-494-5067).



alzet

MICRO-OSMOTIC PUMP

ALZA Corporation • 950 Page Mill Road
P.O. Box 10950 • Palo Alto, CA 94303-0802 • (415) 494-5323

In *France, Belgium, Switzerland, Spain* and *Portugal*, contact Charles River France, St. Aubin-les-Elbeuf, Tel. (+33)-35-774887, FAX 35/770999 • In *Italy*, contact Charles River Italy, Calco, Tel. (+39)-39-509915, FAX 39/508219 • In *West Germany, the Netherlands* and *Austria*, contact Charles River Germany-Savo GmbH, Kisslegg, Tel. (+49)-7563-8041, FAX 7563-8764 • In *Japan*, contact Muromachi Kikai Company, LTD, Tokyo, Tel. 03 241 2444 • In *Scandinavia*, contact ALAB Laboratorietjänst AB, Sollentuna, Tel. (+46)-8-754 0065 • In *Israel*, contact Anilab, Rehovot, Tel. 08-46 1884, FAX 08-45 0498 • In the *United States* and other countries, contact ALZA Corporation, Tel. (800) 692-2990 or (415) 494-5323, FAX (415) 494-5151.