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Fig. 1. Typical elution pattern obtained with the CPK-CS (Roche™) system. Note the definitive separation between MM and MB isoenzymes.

Fig. 2. Typical course of change in total CPK and MB isoenzyme after myocardial infarction.

Fig. 3. Second clear peaking of MB isoenzyme diagnostic of reinfarction.

References:
1. Data on file, Division of Diagnostic Research, Hoffmann-La Roche Inc., Nutley, Nj.

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<th>Description</th>
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<td>1</td>
<td>Add distilled water to $^{125}$I Digoxigenin</td>
<td>5 min</td>
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<td>2</td>
<td>Add standard or control or patient serum</td>
<td>3 min</td>
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<tr>
<td>3</td>
<td>Add $^{125}$I Digoxigenin Solution</td>
<td>1 min</td>
</tr>
<tr>
<td>4</td>
<td>Shake gently by hand and incubate 30 minutes at 37°C (or 1 hr. at room temp.)</td>
<td>30 min</td>
</tr>
<tr>
<td>5</td>
<td>Decant supernatant and count antibody-bound fraction remaining on tube</td>
<td>24 min</td>
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Total: 63 min

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<td>Deoxy cortisol tone</td>
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<td>Digitoxin</td>
<td>Polyvinyl Pyrrolidine</td>
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<td>Digoxin</td>
<td>Progesterone</td>
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<td>Follicle Stimulating Hormone (FSH)</td>
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<td>Human Growth Hormone (HGH)</td>
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<td>Insulin</td>
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Each year the AACC presents awards to individuals whose performance in a particular aspect of clinical chemistry has been outstanding. Information about each award and a list of former recipients appear in the back of your Membership Directory. The Awards Committee is charged with the responsibility of selecting the recipients of these awards and would appreciate very much receiving nominations from the members.

This form is for your convenience in participating in this important activity. Nominations supported by groups or local sections are especially encouraged. If more information on a nominee is required, the Awards Committee will obtain it from an appropriate source.

You may nominate more than one person for each award. Although preferred, it is not mandatory that nominees be AACC members.

The deadline for nominations is April 15, 1978. All nominations should be sent to the National Office, 1725 K Street, N.W., Suite 1402, Washington, D.C. 20006. Any questions regarding these awards should be addressed to the Chairman of the Awards Committee (please see your Directory for information).

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The Critics' Choice

Unlike most other commercial assays, NMS Neo-T4 utilizes actual spiked blood spots as standards, which are subject to exactly the same experimental conditions as the unknown samples. Through our experience with Neo-T4 marketing and actual clinical screening for nearly 2 years now, we have determined that dextran charcoal provides a superior method of separation, compared to double antibody and PEG, when assaying whole blood-spotted filter paper samples.

It is our standards, however, which make our Neo-T4 kit the critics' choice. Unlike most other commercial assays, our direct Neo-T4 requires no sample extraction (hence, no extraction losses) and does not utilize nonrepresentative "serum" standards, against which whole blood-absorbed filter paper specimens are compared. A serum standard provides no quality control assurance that an assay is functioning properly on whole blood-filter paper unknowns. Our filter paper standards are extensively quality controlled for accuracy, stability and precision for T4 determination on filter paper unknowns. Both standards and unknowns are subject to the same assay conditions, tracer-NS8 effects, etc., and results are reported in serum equivalents. Unlike some competitors who suggest running "serum controls" for routine G.C., we recommend spotting well-mixed EDTA whole blood on filter paper & making subsequent comparison of the Neo-T4 value with the plasma determination (by routine T4 methods).

Our assay provides the most accurate & reliable Neo-T4 determination available with unsurpassed correlation with actual serum levels.

NMS Neo-T4 provides results of superior:
- accuracy & sensitivity (therefore, lowest false-positive recall rate)
- reliability
- reproducibility

Our new Neo-TSH can be used as either a primary screening test or as a test adjunct to low or borderline Neo-T4 values. Both together provide the most reliable mass screening protocol available for detection of congenital hypothyroidism.

The tremendous success and proven reliability of our Neo-T4 coupled with introduction of our new Neo-TSH screen, has enabled us to introduce a new kit size and revised pricing as follows:

<table>
<thead>
<tr>
<th>Neo-T4:</th>
<th>100 tubes</th>
<th>$100.00</th>
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<tbody>
<tr>
<td></td>
<td>500 tubes</td>
<td>$400.00</td>
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<tr>
<td>Neo-TSH:</td>
<td>10 tubes</td>
<td>$75.00</td>
</tr>
<tr>
<td></td>
<td>100 tubes</td>
<td>$125.00</td>
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<tr>
<td></td>
<td>500 tubes</td>
<td>$500.00</td>
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</tbody>
</table>

For more information call:
800-854-3002 or in California 714-645-2111
Thrombo-Wellcotest® is simple to perform*
There is no need for special training.
Night and weekend testing can be performed routinely.

<table>
<thead>
<tr>
<th>1. collect blood</th>
<th>2. mix blood and allow to clot</th>
<th>3. ring clot and stand tube at room temperature</th>
<th>4. separate serum from clot</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. number empty test tubes (1) &amp; (2)</td>
<td>6. add saline buffer</td>
<td>7. add serum sample</td>
<td>8. pipette to reaction slide</td>
</tr>
<tr>
<td>9. add latex suspension</td>
<td>10. stir serum/latex mixture</td>
<td>11. rock and read Nonagglutinated pattern: FDP concentration less than 2 μg per ml</td>
<td>Agglutinated pattern: FDP concentrations greater than 2 μg per ml</td>
</tr>
</tbody>
</table>

**Assay of FDP in serum.**

*For complete information on how to use Thrombo-Wellcotest® for the detection of Fibrinogen Degradation Products in serum and urine, STAT, send for our laminated, full-color procedure chart.
&TELL
...and all this too!

Sensitive
Latex slide test screens both urine and serum STAT for Fibrinogen Degradation Products. Detects fibrin monomers and all four fragments—X, Y, D, and E. Thrombo-Wellcotest provides three ranges of FDP levels: less than 10 µg/ml, between 10 and 40 µg/ml, and over 40 µg/ml.

Reliable
Correlates well with tanned red cell hemagglutination-inhibition immunoassay and "staph-clumping" test.\(^1,2,3\)

Complete
You supply only the test tubes, no additional reagents are needed. Thrombo-Wellcotest fits easily into the work procedure of any laboratory.

Economical
Can be performed on single sera without wasted reagents.

For the rapid, reliable detection of FDP in serum and urine. STAT!

Thrombo-Wellcotest
Turns a difficult determination into a simple procedure


Please send me a complimentary Thrombo-Wellcotest\textsuperscript{®} Procedure Chart.

Name_________________________

Title________________________

Institution____________________

Address_______________________

City__________________________

State_________________________ Zip Code__________

Wellcome Reagents Div. Burroughs Wellcome Co. Research Triangle Park North Carolina 27709

Circle No. 104 on Reader's Service Card
Get an education in RIA test kits

We'll pay the tuition

Do you run TSH, Prolactin or C-Peptide tests? If so, we're willing to bet you'll like using Calbiochem RIA test kits better. Try a kit on us. Evaluate it. Verify our purity of antigen, our specificity and sensitivity of antibody, our low cross-reactivity, our low nonspecific binding. If we win the bet, we'll probably win your business, which will make you a winner, too.

I'm willing to learn.
I am now running □ TSH □ Prolactin □ C-Peptide
I use (brand) ____________________________
Name ____________________________ Title ____________________________
Institution ____________________________
Street ____________________________
City ____________________________ State ____________________________
Zip ____________________________

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CALBIOCHEM-BEHRING CORP.
10933 North Torrey Pines Rd., La Jolla, CA 92037

In the last 10 years mass spectrometry has become a highly useful tool in biomedical research, facilitating quantitative determination of picomole amounts of metabolites and drugs. This has been achieved by isotope dilution analysis, using as carriers materials labeled with one or more nonradioactive isotopic atoms. The methodology generally involves a prior chromatographic separation and purification technique—e.g., GLC, HPLC, or TLC—an appropriate mass spectrometer with intermediate resolution, and a data-handling system. This new and promising field of quantitative mass spectrometry was the subject of an international symposium held at Ghent in June 1976, the proceedings of which are presented in this book.

The salient aspects of this methodology are presented in two review papers by the two groups that have been outstanding pioneers in this field, namely, E. C. and M. G. Horning and C. C. Sweeley et al. These researchers look at the field from two rather different perspectives, which complement each other in many respects. Other important aspects of this methodology, not covered by these review papers, have been adequately presented in other papers in the symposium. Outstanding among these are the papers of the Beckey-Schulten group, which demonstrate the potential of field desorption in conjunction with isotope dilution analysis. A paper by Pickup and McPherson points out some simple but important facts about the statistical distribution of stable isotopes, which have been overlooked by many investigators.

In addition to these general papers, the reader is presented with "case histories" of the quantitative determination of a number of highly interesting compounds in biological specimens, many of which can be regarded as models for other similar materials. These include papers on different steroids and on prostaglandins, dopamine, and coenzyme B₁₂. There are also studies of numerous drugs and their metabolites including papaverine, cyclophosphamide, imipramine, phenylcyclidine, d-propoxyphene, and alcofinac.

In spite of its spectacular achievements in quantitation of biological materials, this methodology of mass-spectrometric isotope-dilution analysis may have reached its limit of sensitivity at the picomole level—mainly because of interference from impurities with the same molecular weight. These have to be reduced to the parts per billion level or less, to eliminate their undesirable effects. Although this may sound somewhat discouraging, it also means that the information published in this book is not likely to be rapidly outdated. We may obviously expect hundreds or thousands of additional papers providing quantitative information on a large variety of compounds of biomedical interest, and there will also be certain refinements in instrumentation, but it is hard to envisage many conceptual innovations in this methodology that have not been referred to in one or more of the papers in this symposium.

In the absence of a monograph on the "quantitative mass spectrometry" of materials of biomedical interest, the reader is left with the second best—an up-to-date collection of papers on different aspects of the topic. Such a presentation generally suffers from lack of coherence and adequate critical evaluation. However, since this symposium represents a fair cross-section of the active research in this field, reading this symposium is expected to be highly instructive, especially for those who have prior knowledge of mass spectrometry.

M. Anbar
Department of Biophysical Sciences
School of Medicine
State University of New York/ Buffalo
Buffalo, N. Y.

Books Received


APPLICATION FOR MEMBERSHIP

INSTRUCTIONS: Before completing the application please read the instructions, the Constitution, and Bylaw I which deals with membership. Complete all questions on the application. You may supplement your answers with confirming information, bibliographies, and descriptions of responsibilities in clinical chemistry, but your application will not be accepted unless you have answered all questions. MAKE SURE THE APPLICATION CAN BE READ.

GENERAL INFORMATION (please type or print with black ink)

Dr. Mr. Ms. Mrs. Last First Middle Years Age:

Name: __________________________________________

Indicate Preferred Mailing Address:

Business __________________________________________

Home __________________________________________

Phone __________ Zip Code __________

Phone __________ Zip Code __________

Membership applied for: □ Member, □ Student Affiliate, □ Reinstatement, □ Reclassification from ________ to ________

QUALIFICATIONS FOR MEMBERSHIP. Acceptance for membership requires that each applicant meets certain minimum requirements in education and experience. Education and experience are considered together. Thus it is important that you complete the information requested below. If additional information is needed you will be contacted, but time would be saved if complete information relative to clinical chemistry is provided.

1. Education. If your degree is from a foreign university, please include a transcript or certificate of graduation.

<table>
<thead>
<tr>
<th>SCHOOL AND CITY</th>
<th>DATE ATTENDED</th>
<th>MAJOR</th>
<th>MINOR</th>
<th>DEGREE AND YEAR</th>
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Please summarize your educational experience in the following disciplines:

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<th>DISCIPLINE</th>
<th>QUARTER HOURS</th>
<th>SEMESTER HOURS</th>
<th>DISCIPLINE (OTHER)</th>
<th>QUARTER HOURS</th>
<th>SEMESTER HOURS</th>
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<td>CHEMISTRY</td>
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<td>BIOLOGY</td>
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<td>MATHEMATICS</td>
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FOR OFFICIAL ACTION:

DUES AMOUNT RECEIVED $ __________

DATE RECEIVED __________ BY __________

ROUTING: __________

DATE RECEIVED __________ PLACE RECEIVED __________ DISPOSITION __________

AMOUNT RECEIVED $ __________ DATE RECEIVED __________ BY __________

DATE RECEIVED __________ PLACE RECEIVED __________ DISPOSITION __________

AMOUNT RECEIVED $ __________ DATE RECEIVED __________ BY __________

DATE RECEIVED __________ PLACE RECEIVED __________ DISPOSITION __________

AMOUNT RECEIVED $ __________ DATE RECEIVED __________ BY __________

DATE RECEIVED __________ PLACE RECEIVED __________ DISPOSITION __________

AMOUNT RECEIVED $ __________ DATE RECEIVED __________ BY __________
2. Experience. Start with the present and include the last 10 years.

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<tr>
<th>EMPLOYER AND ADDRESS</th>
<th>POSITION TITLE</th>
<th>DATES</th>
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Briefly describe your present responsibilities and activities in clinical chemistry. If the activity is in an area others may not think of as clinical chemistry, show the relationship of your work to clinical chemistry:

__________________________________________________________________________________

Honors, scholarships, ________________________________________________________________

Certifications ________________________________________________________________

Membership in professional societies ________________________________________________

SPONSORS AND ALTERNATE REFERENCES

Signatures of 2 sponsors who are members of the AACC are preferable. However, if unavailable, names and addresses should be given of 2 responsible persons who have knowledge of your work and whom you have asked to write recommendations appraising your qualifications in clinical chemistry. These recommendations should accompany the application, if possible.

<table>
<thead>
<tr>
<th>SIGNATURES OF AACC MEMBER OR NAMES OF REFERENCES</th>
<th>ADDRESS</th>
<th>DATE SIGNED</th>
<th>AACC MEMBER?</th>
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AGREEMENT

I hereby apply for membership in the AACC and agree to abide by its Constitution and Bylaws, and to support its objectives. Payment of $________ for the first year's dues is enclosed.

__________________________________  _________________________________
Date                                  Signature of Applicant

Membership, unless otherwise requested, becomes effective on January 1 of the current year when final acceptance is before October 1, otherwise on January 1 of the following year. Membership includes a subscription to CLINICAL CHEMISTRY. Please make checks for dues payable to the AACC. If you are now a subscriber to CLINICAL CHEMISTRY you will receive full credit for your subscription payment. Are you a subscriber?  □ Yes  □ No

Do you wish a membership certificate ($3.00 each)  □ Yes  □ No. Please include this amount with the check for the dues.
CONSTITUTION

Article I. NAME AND INCORPORATION
The name of the Association is the "American Association for Clinical Chemistry, Incorporated." Pursuant to the original certificate of incorporation, this Association shall conform to the provisions of the Membership Corporation Law of the State of New York.

Article II. PURPOSE
The purpose for which the Association is formed is to further the public interest by encouraging the study, advancing the science, and improving the practice of clinical chemistry. To achieve these objectives the Association shall:
1. Establish standards for education and training in the field of clinical chemistry.
2. Encourage the creation, promotion and maintenance of standards for certification of individuals in the field of clinical chemistry.
3. Encourage individuals in the field to pursue advanced studies and to engage in scientific investigations.
4. Promote scientific knowledge of clinical chemistry through meetings, seminars, discussions, reports and publications.
5. Initiate and participate in programs related to clinical chemistry that are in the interest of the public.
6. Promote programs for the recognition of the profession of clinical chemistry.

BYLAWS

Article I. MEMBERSHIP
1. This Association shall consist of Members, Honorary Members, Emeritus Members, and Student Affiliates.
2. Persons admitted as members shall possess an earned baccalaureate or higher degree in science or medicine or the academic equivalent of the above, and b) be engaged in professional activities commonly associated with the practice of clinical chemistry. (Membership in the Association is not to be construed as certification.)
3. Scientists who have attained distinction by their contributions to clinical chemistry may be elected as Honorary Members of the Association upon nomination by the Board of Directors and by vote of the Council. Such members shall neither vote nor hold office in the Association, but shall be entitled to certain privileges.
4. An individual who has been a Member in good standing for a period exceeding one-half the age of the Association (starting in 1949) or for 25 years, whichever is smaller, who is retired from employment because of age or illness, may upon application and upon recommendation of the local section be voted an Emeritus Member by the Membership Committee of the Association. An Emeritus Member retains all the membership rights, is exempt from the payment of dues, but may receive the Association publications at a reduced charge.
5. Admission as a member shall be by application through and nomination by a Local Section, referral to the Association Membership Committee, endorsement and election by vote of the Membership Committee. An applicant rejected by a Local Section may appeal to the Association Membership Committee with all available information upon which the rejection was based. Where no Local Section exists, application may be made directly to the Association.
6. Reinstatement. After a lapse of more than one year subsequent to resignation, reinstatement shall be through the usual procedure required for election to any class of membership. Application, election, and payment of dues for the current year in advance. Within a period of one year following resignation, reinstatement to previous status may be affected by the payment of all indebtedness to the Association.
7. Only Members and Emeritus Members who are in good standing shall have any right, title or interest in the property and funds of the Association. Only Members and Emeritus Members may hold Association office or Association committee memberships. Only Members and Emeritus Members may represent the Association in professional matters.
8. Students, graduate or undergraduate, majoring in clinical chemistry or closely related academic disciplines, shall be entitled to become Student Affiliates at a discount in membership dues as long as they annually certify that they are undergraduate or graduate students doing full-time academic studies. "Full-time" is to represent any combination of course, work, teaching and/or research assistantships or fellowships or fellowships that the respective institution considers a full-time load. In all cases, the institution shall be acceptable to the Association.

Instructions for Completing Membership Application Form
The American Association for Clinical Chemistry is an organization of professional individuals who subscribe to the goals of the Association as outlined in the Constitution and Bylaws. The Constitution in its entirety and Article I of the Bylaws are reproduced here. Please read the Constitution, the Bylaws and these instructions before filling out the membership application.

1. Please print clearly or type your name, address including zip code, and phone numbers. Indicate whether you wish your correspondence at your home or business address.
2. Answer all questions or check the appropriate blocks. Missing information is the single most frequent cause for return of applications.
3. Summarize, in hours, your educational experience in the scientific disciplines. Other disciplines than those listed may be added in the space provided (i.e., physics).
4. If two members of the AACC are not available as sponsors, please attach two letters of recommendation from persons appraising your qualifications in clinical chemistry.
5. If you are applying for reclassification the requirement for sponsors is waived.
6. If you are applying for reinstatement, please read Bylaw Article I-6.
7. If you are applying for Emeritus, please read Bylaw Article I-4. Education, experience, and sponsors are waived.
8. Please attach a check for the appropriate amount to the application. If you desire a membership certificate, include an additional $3.00 in your check.

Classification Annual Dues
Member $60.00
Student $15.00
Emeritus (Journal Subscription) $15.00

9. The AACC is composed of geographically distinct local sections (currently 21). For the most rapid processing of your application please submit it to the local section for your area at the below address. Local section secretaries are also listed in CLINICAL CHEMISTRY. If that box is blank or you do not know to which section to apply, you may return the completed application to the National Office as listed below.

10. You will be notified of the action on your application by the National Membership Committee.

Local Section Membership Chairman
Mail the application to this address. If blank mail to National Office.
CONCEPT 4™
AUTOMATIC RADIOASSAY

CONCEPT 4 begins a whole new way of thinking about radioassay. It brings completely automatic sample-to-answer instrumentation within reach of the clinical laboratory. By adding a premeasured reagent system to the instrumentation it assures you of consistently accurate results, free of human error. In essence, it's an answer system for the five high-volume tests available now—T₄, T₃ RIA, T₂ Uptake, Digoxin and Cortisol. And six more are coming soon. CONCEPT 4 can make your heaviest radioassay workload effortless. For complete information about CONCEPT 4 please write us at the address below: