



**NATIONAL ACADEMY
OF CLINICAL BIOCHEMISTRY**

Service - Education - Research

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CONTENTS

Academy without an official journal.....	page 1
Scientific Notes:	
Newly available enzyme immunoassays for estrogen and progesterone receptors, James T. Wu.....	page 2
A better risk factor for coronary heart disease?, Lily H. Wu and James T. Wu.....	page 4
Steve Soldin new President of the Academy.....	page 5
1989 Annual Meeting to be held in Toronto.....	page 6
Academy sponsors Symposium at International Congress.....	page 6
Dr. Eric Barnard gives Kodak Award Lecture at Annual Meeting.....	page 7
Members invited to participate in NCCLS activities.....	page 8
What do clinical biochemists do?....an editorial comment.....	page 9
Names of new members accepted into the Academy.....	page 10
Minutes of the Board of Directors Meeting.....	page 11

**ACADEMY ENDS ASSOCIATION
WITH PUBLISHER OF ITS OFFICIAL JOURNAL**

The association of the Academy with the medical and scientific publishers S. Karger, of Basel, Switzerland, will officially terminate in December of 1988, leaving the Academy temporarily without an official journal. The announcement of the termination was made by John Sherwin, then President of the Academy, at the July Board meeting held in New Orleans.

Since 1980, the journal Clinical Physiology and Biochemistry has been published by Karger as the official journal of the Academy. Julian Rosenthal, of Ulm, FRG and Max Rafelson, of Chicago, IL serve as editors-in-chief.

For the past several years, increasing member dissatisfaction with the journal, either with the cost of the subscription or the
(continued on back page)

NEWLY AVAILABLE ENZYME IMMUNOASSAYS FOR ESTROGEN AND PROGESTERONE RECEPTORS

Assay for estrogen and progesterone receptors (ER and PgR) on the cytosol fractions of homogenized human breast tumor is now widely used as a guide to the selection between endocrine and cytotoxic chemotherapies. Tumors with high receptor level will have a good probability of responding to endocrine manipulation. Receptor assays also provide valuable prognostic information about the probability of recurrence and disease-free intervals. Women with neoplasms bearing both positive ER and PgR have a significantly longer disease free survival.

In the past, steroid binding assay (SBA) using a Dupont kit (formerly marketed by New England Nuclear) was the major procedure used to measure ER and PgR in the clinical laboratory. Recently enzyme immunoassays for both ER and PgR became available from Abbott. Both methods use the same cytosol preparation from tumor tissue. Their major differences are summarized in the following table.

Dupont SBA	Abbott EIA
Measures steroid binding at equilibrium	Measures receptor as antigen with monoclonal antibodies
Requires at least 400 mg tissue	Can be performed on 50 mg specimen (such as needle biopsy)
Labor intensive	Almost semi-automated
Uses radioactively labelled steroid	Uses a spectrophotometer
Data subjected to Scatchard analysis	Automated print-out
Data difficult to interpret	Gives more precise result
Results may be falsely low if specimen contains endogenous steroid	Not affected by presence of endogenous steroid
Reagents have limited shelf life	Reagents have longer shelf life
Receptor is less stable	Receptor is more stable

The SBA method gives both the dissociation constant (K_d) and the number of receptors. The K_d is used to identify true receptors and to confirm that the receptors measured are not due to nonspecific binding. The EIA kit uses monoclonal antibody to identify the receptors; therefore, K_d is not needed. The only result reported by EIA is the number of receptors.

Even though SBA measures the binding property and EIA determines the antigenicity of the receptors, the correlations between these two assays are very excellent.

The correlation coefficient for ER was 0.95.

$$Y(\text{SBA}) = 2 + 0.86 \times X(\text{EIA})$$

The correlation coefficient for PgR was 0.88.

$$Y(\text{SBA}) = -1.08 + 1.29 \times X(\text{EIA})$$

We highly recommend the use of EIA kits for measuring ER and PgR in clinical laboratories.

James T. Wu*

SELECTED REFERENCES

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Wittliff JL. Steroid-hormone receptors in breast cancer. Cancer 1984; 53: 630-643.

Clayton F, Wu JT. The lability of estrogen receptor: correlation of estrogen binding and immunoreactivity. Clin Chem 1986; 32: 1774-1777.

Wu JT, Wilson LW. Progesterone receptor: stability studies and correlation between steroid binding assay and enzyme immunoassay. Submitted for publication.

*From the Department of Pathology, University of Utah, and Associated Regional University Pathologists, Salt Lake City, Utah, 84132.

THIS NEWSLETTER COMES TO YOU A LITTLE LATE...

The lateness of this issue of the Newsletter is the result of unavoidable delays caused by events involved in the loss of a job by the editor, his sometimes-frustrating search for a new position and his relocation to a new job in a new state. The mechanisms of writing, editing and producing this Newsletter are such that it was not possible to pass the task on temporarily to someone else. The kind support given the editor during his trying period by members of the Academy is gratefully acknowledged and deeply appreciated. Please see the editorial comment on page 9.

A BETTER RISK FACTOR FOR CORONARY HEART DISEASE?

It is well known that identification of specific genetic risk factors is most useful for determining susceptibility of an individual for coronary heart disease. According to recent studies, Lp(a) (lipoprotein a) could be the most important genetic trait associated with the development of coronary heart disease. Lp(a) has a structure related to low-density lipoprotein but contains an additional glycoprotein moiety. Serum concentrations of Lp(a) were found to correlate more significantly with myocardial infarction than total cholesterol levels, high-density of low-density lipoprotein cholesterol levels. Because the serum level of Lp(a) is not affected by age, environmental factors or dietary manipulation, it can be used to predict coronary risk. Among patients aged 55 and younger especially, Lp(a) is the strongest risk factor, surpassing any other known lipoproteins. Since Lp(a) contributes less than 15% of the total plasma cholesterol, many persons with previously considered "normal" levels of total cholesterol may have atherogenic levels of Lp(a).

However, Lp(a) concentrations in plasma are generally much lower than those of LDL. Therefore, even though Lp(a) is found in atherosclerotic plaques, it is not clear how the much smaller concentration of Lp(a) leads to plaque formation. One postulate is that the high carbohydrate content of Lp(a) could increase the overall ability of cholesterol-carrying complex to penetrate the endothelial lining of an artery cell and become entrapped. The entrapped cholesterol complex could be more resistant to normal degradation and removal processes and allow cholesterol to accumulate and give rise to a fatty deposit or atherosclerotic plaque.

Several procedures have been employed to quantify Lp(a) in serum:

Agarose gel electrophoresis: Lp(a) is identified as a pre-beta band after staining with Oil Red or Sudan Black. Use of fresh sera is essential. The sensitivity is 40 mg/dl.

Double diffusion: Commercially prepared plates are available (from Hyland Diagnostics). Sera frozen at -20 C for 12 months gave the same results as fresh unfrozen serum. Sensitivity is similar to agarose gel electrophoresis.

Immunoelectrodifffusion (rocket): Sensitivity is 1-10 mg/dl.

Enzyme-linked immunosorbent assay (ELISA): A microplate method has been developed; sensitivity is 0.1 mg/dl.

Western blot: 1 ug per band can be detected.

Lily H. Wu and James T. Wu*

(See Selected References, bottom of next page)

STEVE SOLDIN TAKES OVER AS NEW NACB PRESIDENT; LESTER WELLS IS PRESIDENT-ELECT

Several changes among the officers and Board of Directors of the NACB took place in July with the election of officers and the beginning of a new fiscal year.

Steve Soldin, of Children's Hospital National Medical Center, Washington, DC, formally became President at the Annual Business Meeting of the Academy which was held as part of the Twelfth Annual Meeting in New Orleans. After chairing the business meeting as his last official act as President, John Sherwin, of Valley Children's Hospital, Fresno, CA, turned over the duties of office to Soldin. Sherwin remains on the Board as Past-President.

The election results announced at the business meeting revealed that Lester Wells, of Harrisburg Hospital, Harrisburg, PA, becomes the new President-Elect. Elected Secretary was Otto Lobstein, of Northbrook, IL, who had previously served as secretary two years ago.

By election, three positions were filled on the Board of Directors. Daniel Chan, of The John Hopkins Hospital, Baltimore, MD, and Roger Boeckx, of Abbott Laboratories, Chicago, IL, were elected to fill the terms of Homer Biggs, of BDI Laboratories, Cleveland, OH and Sheshadri Narayanan, of Becton Dickinson Vacutainer Systems, East Rutherford, NJ. Chan and Boeckx will serve for four years. Leila Edwards, of Erie County Laboratory, Buffalo, NY, will serve a one year term as a replacement for Dr. Henry Wishinsky, who passed away last December.

The new nominating committee will be headed by Past-President John Sherwin. Others elected to the committee are Al Dubin, of Chicago, IL, Lawrence Kaplan, of University Hospital, Cincinnati, OH, Laurence Demers, of the M.S. Hershey Medical Center, Hershey, PA, and Otto Lobstein. Roger Boeckx, and Anatoly Bezkorovainy, of Rush-Pres.-St. Lukes Medical Center, Chicago, IL will serve as alternates.

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Rhoads GG, Dahlen G, Berg K, Morton NE, Dannenberg AL. Lp(a) lipoprotein as a risk factor for myocardial infarction. JAMA 1986; 256: 2540-2544.

Gaubatz JW, Cushing GL, Morrisett JD. Quantitation, isolation and characterization of human lipoprotein (a). Methods in Enzymology 1986; 129: 167-186.

Fless GM, ZumMallen ME, Scanu AM. Physicochemical properties of apolipoprotein (a) and lipoprotein (a-) derived from the dissociation of human plasma lipoprotein (a). J Biol Chem 1986; 261: 8712-8718.

*From the Department of Pathology, University of Utah School of Medicine, Salt Lake City, Utah 84132.

1989 ANNUAL MEETING TO BE HELD IN TORONTO -SEPARATE FROM AACC MEETING

For the first time in its history, an Annual Meeting of the Academy will not be held in conjunction with the Annual Meeting of the American Association for Clinical Chemistry. The decision was made by the Board of Directors at their July Board meeting after much discussion. Instead, the 1989 Annual Meeting will be held in conjunction with the 8th International Congress of Clinical Enzymology and the Annual Scientific Meeting of the Canadian Society of Clinical Chemistry, both to be held in June, 1989, in Toronto, Canada. The vote was based partially on the results of a poll of members which overwhelmingly favored the change.

The NACB Annual Meeting is to be held on Friday, June 2 and Saturday, June 3, 1989; it immediately follows the 8th International Congress of Clinical Enzymology, which will be held from Monday May 29 (registration and opening reception) through Thursday, June 1. The Annual Scientific Meeting of the Canadian Association of Clinical Chemistry will be held from Monday, June 2 through Friday, June 9. The positioning of the Academy Meeting between the other two meetings will allow Academy members to attend either or both of the other meetings in addition the Academy Annual Meeting. The expectation of the Board was that attendees at the other two meetings will find the NACB Meeting attractive enough to also participate in it. The sequence will allow persons to participate in two full weeks of scientific sessions.

Program chairpersons for the Annual Meeting are Robert Nakamura, of the Scripps Clinic, La Jolla, CA and Nancy Alcock, of the University of Texas Medical Branch, Galveston, TX. The topic of the program is "Diagnostic Applications of Nucleic Acid Probes in the Clinical Laboratory".

NACB members will soon receive by mail registration forms for and complete information on the Meeting, according to Otto Lobstein, Academy Secretary.

ACADEMY SPONSORS SYMPOSIUM AT ASIAN INTERNATIONAL CONGRESS

A symposium on apolipoproteins, held as part of the 4th-Asian-Pacific Congress of Clinical Biochemistry in Hong Kong from August 28 to September 2, 1988, was sponsored for the event by the Academy. The symposium was chaired and four papers presented by Academy members.

The meeting, which had an attendance of about 750 persons representing some 40 countries, was composed of five plenary lectures, 18 symposia, six sessions of short papers, six poster sessions and three pre-Congress workshops. Organizers of the Congress seek sponsorship of the symposium sessions by scientific

societies from around the world. Seed money for the Academy members participating was provided in part by the Academy and by a grant from Beckman Instruments.

Alvin Dubin, of Rush-Presbyterian St. Lukes Medical Center, Chicago, IL gave the introduction to the Symposium. Evan Stein gave the opening presentation entitled "Physiology and Modulation of Plasma Apolipoproteins". Herb Naito, of the Cleveland Clinic, Cleveland, OH then spoke on "The Clinical Utility of Apolipoprotein Measurements". Naito and Stein together next spoke on

"Measurements of Serum Apolipoproteins with EIR, RID, Kinetic Rate Nephelometry, ELISA and RIA. Gerald Cooper, of the Centers for Disease Control, Atlanta, GA, gave the final presentation on "Apolipoprotein Measurements: Preanalytical Issues and Standardization".

According to Dubin, the Symposium, held on the morning of Tuesday, August 30, was a success, as judged by the standing-room-only crowd of some 140 persons who attended.

**NOTED BRITISH NEUROBIOLOGIST PRESENTS
EASTMAN-KODAK NACB AWARD LECTURE
AT ANNUAL MEETING**

Highlighting the Twelfth National Academy of Clinical Biochemistry Symposium in New Orleans, July 22 and 23, 1988 was the presentation of Dr. Eric A. Barnard, selected to give the 1988 Eastman-Kodak NACB Award lecture. Dr. Barnard, who is associated with the Medical Research Council Molecular Neurobiology Unit at the MRC Center in Cambridge, England, spoke on "The GABA-Benzodiazopene Receptor and its Clinical Implications".

Since the focus of the Symposium was on membrane function and dysfunction in health and disease, several of the presentations dealt with membrane receptors. The Saturday, June 23 morning session, at which Dr. Barnard spoke, was devoted to discussion of membrane molecules and diseases of the nervous system.

The opening session of the Symposium of Friday morning, July 22 dealt with membrane transport systems in infectious and genetic disease and resistance to cancer drugs. One of the speakers at this session was Dr. Jack Riordon, The Hospital for Sick Children, University of Toronto, who was the general chairman of the Annual Meeting. He spoke on "Multidrug Resistance and Cancer Chemotherapy".

The Friday afternoon session topic was cell surface receptors in heart disease and cancer.

NACB MEMBERS INVITED TO PARTICIPATE IN AND PROVIDE INPUT TO NCCLS ACTIVITIES

Bette Seamonds, of DuPont Laboratories in Wilmington, who serves as the NACB liaison to the National Committee for Clinical Laboratory Standards (NCCLS), has offered to assist any NACB member who would like to get involved in NCCLS activities.

The NCCLS is primarily concerned with the development of consensus standards and guidelines for both the clinical laboratory and industrial sector serving clinical laboratories. Standards and guidelines for better laboratory practice are developed in stages over a period of time by appointed subcommittees, with input sought from all sectors of the clinical lab community.

According to Seamonds, NACB members who wish to have more direct input may seek to be appointed to the subcommittees as "observers". Such observers, although having no voting privileges on the subcommittee, receive subcommittee announcements and agendas, meeting minutes and draft documents related to projects in process. Comments from observers are encouraged and welcomed during the development process. Involvement at the observer level usually lays the foundation for more defined participation in the subcommittee in the future, according to Seamonds.

Those NACB members who wish to participate in this way in the activities of the NCCLS may contact Seamonds at the following address:

Bette Seamonds, Ph.D., FACB
E. I. Du Pont de Nemours, Inc.
Glasgow Site, Box 513
Wilmington, DE 19898
tel: 302-451-3075

ADDRESS CHANGES SOUGHT

Members who have had a recent address change are requested to forward their new address to Academy Secretary Otto Lobstein, at the address given below:

Otto E. Lobstein, Ph.D., FACB
2006 Maple Avenue
Northbrook, IL 60062-5266

WHAT DO CLINICAL BIOCHEMISTS DO?

How many times have you partaken in a conversation similar to the following:

"What do you do?"

You answer: "I work at Hospital so and so. I'm the clinical biochemist there."

"Oh? What does a clinical biochemist do?"

Most of the general public do not have even the slightest inkling of what we do; I would venture that the average person could tell you more about what a nuclear physicist or a computer programmer does. Most hospital patients, who eventually benefit from what we do, are totally unknowledgeable about our input into the quality and diagnostic value of the laboratory tests done on them. Even among a hospital's nursing staff, I have found a surprizingly high absence of information about our function, revealed by questions like: "I know you work in the lab, but what do you do there?"

Perhaps more directly distressing and of significant economic impact is that most hospital administrators don't have a better knowledge of our role than the general public, even though they may be able to disguise their ignorance in administrative jargon. In today's environment, to them we're only worth so many dollars and cents; we're a budgetary line item, sometimes more expendable than a new rug for the hospital lobby or a new underground sprinkling system for the front lawn, because certainly these two items are more visible. I write this out of recent experience: I lost my job at a hospital because of claimed budgetary constraints on the laboratory, while at the same time our hospital (only eight years old) was installing new furniture and carpeting in the lobby and redoing the landscaping in the courtyard. I know that in my years there on hundreds of occassions I directly contributed more to patients welfare than the new lobby furniture or the landscaping ever will. No, I am not bitter, but I think justifiably concerned about the ignorance of those who made the decision (two of whom were pathologists) that our hospital could not afford a clinical biochemist. An irony is that my salary, by all standards, was significantly below that received by biochemists at other hospitals in similar positions. Also, I cannot help but wonder: if I had not asked for a salary review (about six weeks prior to my dismissal), would I still have my position?

This experience has given me time to think about our role as clinical biochemists in hospitals; we know how vital our functions are, but enough other people don't. In practical terms this means that we must seek means of changing the public's (and unfortunately administrators) perception of what we as clinical biochemists do.

A little reflection reveals what a sad state of affairs this is! Rather than just doing our work, we are being forced into the game of image-making and public relations hype to justify what we do. But perhaps in the long run, this will not be all bad. Look what it did for the salaries of administrators!

Your comments and responses are welcome.

Richard S. Kowalczyk

38 NEW MEMBERS ACCEPTED INTO ACADEMY

The following individuals were recently accepted into the Academy. A warm welcome is extended to each one.

Lenox Berchael Abbott, Ph.D., Pittsburgh, PA
C.M. Abraham, Ph.D., Nicholasville, KY
Vivian N.Y. Chan, Ph.D., D.I.C., Hong Kong, Hong Kong
Gu-gang Chang, Ph.D., Taipei, Taiwan, Republic of China
Jaroslav Babjuk, RNDr., PhMr., Ph.D., Praha, Czechoslovakia
Sreven M. Faynor, Ph.D., Morgantown, WV
Gurcharan L. Gagenja, Ph.D., Troy, MI
Patricia E. Garrett, Ph.D., West Bridgewater, MA
Hing-Hang Goh, Ph.D., Singapore, Malaysia,
Edward Paotai Kang, Ph.D., New Hyde Park, NY
Paul M. Keane, M.D., Calgary, Alberta, Canada
Catherine H. Ketchum, Ph.D., Birmingham, AL
Christopher Lam, Ph.D., C.Chem., FRSC, Shatin, Hong Kong
Yao Lian-Sheng, M.D., Shanghai, People's Republic of China
Jian-zhai Li, M.D., Beijing, People's Republic of China
Li-gun Li, M.D., Shanghai, China
Bing-wen Liu, Ph.D., Chengdu, People's Republic of China
Volker Maier, Ph.D., Ulm, Federal Republic of Germany
Akiyuki Ohkubo, M.D., Tokyo, Japan
Miyako Okada-Takagi, Ph.D., Tokyo, Japan
Shubhangi S. Pathak, Ph.D., Ville Parle, India
P. S. Pradhan, Ph.D., Bombay, India
Nader Rifai, Ph.D., Washington, DC
Henning von Schenck, M.D., Ph.D., Linkoping, Sweden
Guang-Ping Shen, Ph.D., Beijing, People's Republic of China
Rana Manik Shinde, Ph.D., Ludhiana, India
D. K. Srivastava, M.D., Kanpur, India
Joseph Stocks, Ph.D., London, England
Jiafeng Weng, Ph.D., Guangzhou, People's Republic of China
Dao-Yuan Wang, M.D., Shanghai, People's Republic of China
Yaxin Wang, M.D., Shanghai, People's Republic of China
Jeng Shu Wei, Ph.D., Tao-Yuan, Taiwan, Republic of China
Jiafeng Weng, Ph.D., Guangzhou, People's Republic of China
Johannes Widyaharsana, M.D., D.E., Jakarta, Indonesia
Xue Yan, M.D., Beijing, People's Republic of China
Shude Yang, Ph.D., Beijing, China
Li Fang Yuan, M.D., Beijing, People's Republic of China
Heng-duo Zhai, M.D., Shanghai, People's Republic of China

**MINUTES OF THE BOARD OF DIRECTORS
MEETING OF THE NACB
APRIL 26, 1988**

Present: JE Sherwin, Pres., H. Sky-Peck, Sec., M. Warshaw, Treas., KO Ash, H Biggs, D Hohnadel, S. Narayanan, L Shaw, and S Soldin (teleconference).

Pres. Sherwin reported that he and AACC president Ted Peters have had informal discussions regarding future relations between the two organizations. The Boards of both organizations agreed to appoint committees to enter into formal discussion. Representatives from the AACC are Ted Peters, Bob Habig and Carl Burtis; from the NACB are John Sherwin, Steve Soldin and Basil Doumas. The first meeting of the committees has not been scheduled.

Pres. Sherwin also reported that the Standard Operating Procedures for the officers and board of the NACB have not been completed, but would be ready for the July Board meeting.

Pres. Sherwin announced that Dr. Eric Barnard, of Cambridge, England had been selected as the Kodak awardee for the upcoming Annual Meeting.

Treas. Warshaw informed the Board that the San Francisco Annual Meeting showed a \$4,000 loss.

Following discussion of possible candidates for the chairmanship of the 1989 Annual Meeting, R Nakamura was nominated by O Ash, seconded by S Narayanan; the vote for R Nakamura was unanimous.

The date of the next Board meeting was set for Thursday, July 21, 1988 at 7:00 pm at the Westin Hotel in New Orleans.

Respectfull submitted,
Howard Sky-Peck, Secretary

(Editor's note: the above is a condensed version of the minutes. Any member wishing to obtain the complete minutes should write to Secretary Sky-Peck.)

NACB OFFICES FOR 1988-89

President	Steven J. Soldin
President-Elect	Lester W. Wells
Secretary	Otto E. Lobstein
Treasurer	Myron W. Warshaw
Past President	John E. Sherwin

BOARD OF DIRECTORS

K. Owen Ash	1986-90
Roger L. Boeckx	1988-92
Daniel W. Chan	1988-92
Leila Edwards	1988-89
David C. Hohnadel	1985-89
Lawrence A. Kaplan	1986-90
Robert Nakamura	1987-91
Leslie M. Shaw	1987-91

(Continued from page 1)

non-applicability of the articles published to every-day laboratory practice, led the Board to undertake extensive deliberation at the Board level and with Karger in an attempt to reach a resolution of the concerns expressed by members. When such a resolution could not be made, the Board decided to let the contract with Karger for the publication of the journal run out without renewal.

According to Sherwin, informal discussions have been held with other publishers and with other scientific societies to explore possibilities of publishing an official Academy journal.



NATIONAL ACADEMY
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