

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

SCHEDULE 14A
(RULE 14a-101)

INFORMATION REQUIRED IN PROXY STATEMENT

SCHEDULE 14A INFORMATION

PROXY STATEMENT PURSUANT TO SECTION 14(a) OF THE SECURITIES
EXCHANGE ACT OF 1934 (AMENDMENT NO.)

Filed by the Registrant
Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement Confidential, for Use of the
Commission Only (as permitted by
Rule 14a-6(e)(2))
- Definitive Proxy Statement
 Definitive Additional Materials
 Soliciting Material Pursuant to Rule 14a-12

LEXICON GENETICS, INCORPORATED

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required.
 Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

(1) Title of each class of securities to which transaction applies:

(2) Aggregate number of securities to which transaction applies:

(3) Per unit price or other underlying value of transaction computed
pursuant to Exchange Act Rule 0-11 (set forth the amount on which the
filing fee is calculated and state how it was determined):

(4) Proposed maximum aggregate value of transaction:

(5) Total fee paid:

- Fee paid previously with preliminary materials.
 Check box if any part of the fee is offset as provided by Exchange Act
Rule 0-11(a)(2) and identify the filing for which the offsetting fee was
paid previously. Identify the previous filing by registration statement
number, or the Form or Schedule and the date of its filing.

(1) Amount Previously Paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:

[LEXICON LOGO]

April 5, 2002

TO OUR STOCKHOLDERS:

I am pleased to invite you to attend the 2002 annual meeting of stockholders of Lexicon Genetics Incorporated to be held on Wednesday, May 8, 2002, at 1:30 p.m., local time at The Woodlands Resort and Conference Center, 2301 North Millbend Drive, The Woodlands, Texas. We have enclosed with this letter:

- o an official notice of the annual meeting;
- o a proxy statement that describes the matters to be considered and acted upon at the annual meeting; and
- o a form of proxy that we are asking you to complete and return to us, indicating your vote with respect to the matters described in the proxy statement.

Your vote is important, regardless of the number of shares that you hold. Whether or not you plan to attend the annual meeting, I hope you will vote as soon as possible by signing and returning the enclosed form of proxy in the postage-paid envelope we have provided for that purpose.

Thank you for your ongoing support of and continued interest in Lexicon Genetics. We look forward to seeing you at the annual meeting.

Sincerely,

Arthur T. Sands, M.D., Ph.D.
President and Chief Executive Officer

LEXICON GENETICS INCORPORATED
8800 TECHNOLOGY FOREST PLACE
THE WOODLANDS, TEXAS 77381
(281) 863-3000

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS
TO BE HELD MAY 8, 2002

TO OUR STOCKHOLDERS:

The annual meeting of stockholders of Lexicon Genetics Incorporated will be held on Wednesday, May 8, 2002, at 1:30 p.m., local time, at The Woodlands Resort and Conference Center, 2301 North Millbend Drive, The Woodlands, Texas, to:

- o elect three Class II directors;
- o ratify and approve the appointment of Ernst & Young LLP as our independent public accountants for the fiscal year ending December 31, 2002; and
- o act on any other business that properly comes before the annual meeting.

You are entitled to vote at the annual meeting only if you are the record owner of shares of our common stock at the close of business on March 25, 2002.

It is important that your shares be represented at the annual meeting whether or not you plan to attend. PLEASE MARK, SIGN AND DATE THE ENCLOSED PROXY AND RETURN IT IN THE ACCOMPANYING POSTPAID ENVELOPE AS PROMPTLY AS POSSIBLE. If you are present at the annual meeting, and wish to do so, you may revoke the proxy and vote in person.

By order of the Board of Directors,

Jeffrey L. Wade
Secretary

The Woodlands, Texas
April 5, 2002

LEXICON GENETICS INCORPORATED
8800 TECHNOLOGY FOREST PLACE
THE WOODLANDS, TEXAS 77381
(281) 863-3000

PROXY STATEMENT
FOR
ANNUAL MEETING OF STOCKHOLDERS

TO BE HELD MAY 8, 2002

GENERAL INFORMATION

PURPOSE OF THIS PROXY STATEMENT

We have prepared this proxy statement to solicit proxies on behalf of our Board of Directors for use at our 2002 annual meeting of stockholders and any adjournment or postponement thereof. We are mailing this proxy statement and the accompanying notice of annual meeting of stockholders and form of proxy to our stockholders on or about April 5, 2002.

TIME AND PLACE OF ANNUAL MEETING

The annual meeting will be held on Wednesday, May 8, 2002, at 1:30 p.m., local time, at The Woodlands Resort and Conference Center, 2301 North Millbend Drive, The Woodlands, Texas.

MATTERS TO BE CONSIDERED AT THE ANNUAL MEETING

At the annual meeting, our stockholders will be asked to consider and act upon the following matters:

- o the election of three Class II directors; and
- o a proposal to ratify and approve the appointment of Ernst & Young LLP as our independent public accountants for the fiscal year ending December 31, 2002.

Our Board of Directors does not intend to bring any other matters before the annual meeting and has not been informed that any other matters are to be presented by others. Our bylaws contain several requirements that must be satisfied in order for any of our stockholders to bring a proposal before one of our annual meetings, including a requirement of delivering proper advance notice to us. Stockholders are advised to review our bylaws if they intend to present a proposal at any of our annual meetings.

RECORD DATE FOR DETERMINING ENTITLEMENT TO VOTE

You are entitled to vote at the annual meeting if you were the record owner of shares of our common stock as of the close of business on March 25, 2002, the record date for the annual meeting established by our Board of Directors.

HOW TO VOTE YOUR SHARES

You may vote in person at the annual meeting or by proxy. To ensure that your shares are represented at the annual meeting, we recommend you vote by proxy even if you plan to attend the annual meeting in person. Even if you vote by proxy, if you wish, you can revoke your proxy and vote in person at the annual meeting. If you want to vote at the annual meeting but your shares are held by an intermediary, such as a broker or bank, you will need to obtain from the intermediary either proof of your ownership of such shares as of March 25, 2002 or a proxy to vote your shares.

You may receive more than one proxy depending on how you hold your shares. If you hold your shares through someone else, such as a broker or a bank, you may get materials from them asking you how you want your shares to be voted at the annual meeting.

QUORUM

We must have a quorum to conduct any business at the annual meeting. This means that at least a majority of our outstanding shares eligible to vote at the annual meeting must be represented at the annual meeting, either in person or by proxy. Abstentions are counted for purposes of determining whether a quorum is present. In addition, shares of our common stock held by intermediaries that are voted for at least one matter at the annual meeting will be counted as being present for purposes of determining a quorum for all matters, even if the beneficial owner's discretion has been withheld for voting on some or all other matters (commonly referred to as a "broker non-vote").

OUTSTANDING SHARES

On the record date, we had 52,202,277 shares of our common stock outstanding. If you were the record owner of shares of our common stock on the record date, you will be entitled to one vote for each share of stock that you own on each matter that is called to vote at the annual meeting.

VOTE NEEDED TO APPROVE PROPOSALS

Our Class II directors will be elected by a plurality vote. As a result, if a quorum is present at the annual meeting, the three persons receiving the greatest number of votes will be elected to serve as our Class II directors. Withholding authority to vote for a director nominee will not affect the outcome of the election of directors.

The ratification and approval of the appointment of Ernst & Young LLP as our independent public accountants for the year ending December 31, 2002, and any other business that may properly come before the annual meeting for a vote, will require a majority of the votes cast with respect to such matter (unless a greater vote is required by law or our charter or bylaws). On any such matter, an abstention from voting will have the same effect as a vote against the proposal. Broker non-votes do not count as votes for or against these proposals and are not considered in calculating the number of votes necessary for approval.

HOW YOUR PROXY WILL BE VOTED

Giving us your proxy means that you are authorizing us to vote your shares at the annual meeting in the manner you direct. You may vote for our nominees for election as Class II directors or withhold your vote for any one or more of those nominees. You may vote for or against the proposal to ratify and approve the appointment of Ernst & Young LLP as our independent public accountants for the year ending December 31, 2002, or abstain from voting on that proposal.

If you sign and return the enclosed proxy card and do not withhold authority to vote for the election of our nominees for election as Class II directors, all of your shares will be voted for the election of those nominees. If you withhold authority to vote for one or more of our nominees for election as Class II directors, none of your shares will be voted for those nominees.

If any of our nominees for election as Class II directors become unavailable for any reason before the election, we may reduce the number of directors serving on our Board of Directors, or our Board of Directors may designate substitute nominees as necessary. We have no reason to believe that any of our nominees for election as Class II directors will be unavailable. If our Board of Directors designates any substitute nominees, the persons named in the enclosed proxy card will vote your shares for such substitute(s) if they are instructed to do so by our Board of Directors or, in the absence of any such instructions, in accordance with their own best judgment.

If you sign and return the enclosed proxy but do not specify how you want your shares voted, your shares will be voted in favor of our nominees for election as Class II directors and in favor of the proposal to ratify and approve the appointment of Ernst & Young LLP as our independent accountants for the year ending December 31, 2002.

If you sign and return the enclosed proxy and any additional business properly comes before the annual meeting, the persons named in the enclosed proxy will vote your shares on those matters as instructed by our Board of Directors or, in the absence of any such instructions, in accordance with their own best judgment. As of the date of this proxy statement, we are not aware of any other matter to be raised at the annual meeting.

HOW TO REVOKE YOUR PROXY

You may revoke your proxy at any time before your shares are voted by providing our Corporate Secretary with either a new proxy with a later date or a written notice of your desire to revoke your proxy at the following address: Lexicon Genetics Incorporated, 8800 Technology Forest Place, The Woodlands, Texas 77381, Attention: Corporate Secretary. You may also revoke your proxy at any time prior to your shares having been voted by attending the annual meeting in person and notifying the inspector of election of your desire to revoke your proxy. Your proxy will not automatically be revoked merely because you attend the annual meeting.

INSPECTOR OF ELECTION

Mellon Investor Services L.L.C., our transfer agent and registrar, will count votes and provide a representative who will serve as an inspector of election for the annual meeting.

LIST OF STOCKHOLDERS ENTITLED TO VOTE

A list of our stockholders entitled to vote at the annual meeting will be available for inspection at the annual meeting. The stockholder list will also be available for inspection for ten days prior to the annual meeting at our corporate offices located at 8800 Technology Forest Place, The Woodlands, Texas. Any inspection of this list at our offices will need to be conducted during ordinary business hours. If you wish to conduct an inspection of the stockholder list, we request that you please contact our Corporate Secretary before coming to our offices.

SOLICITATION OF PROXIES AND EXPENSES

We are asking for your proxy on behalf of our Board of Directors. We will bear the entire cost of preparing, printing and soliciting proxies. We will send proxy solicitation materials to all of our stockholders of record as of the record date and to all intermediaries, such as brokers and banks, that held any of our shares on that date on behalf of others. These intermediaries will then forward solicitation materials to the beneficial owners of our shares, and we will reimburse them for their reasonable out-of-pocket expenses for forwarding such materials. Our directors, officers and employees may solicit proxies by mail, in person or by telephone or other electronic communication. Our directors, officers and employees will not receive additional compensation for their solicitation efforts, but they will be reimbursed for any out-of-pocket expenses they incur.

HOUSEHOLDING OF ANNUAL DISCLOSURE DOCUMENTS

The Securities and Exchange Commission recently approved a new rule concerning the delivery of annual disclosure documents. The rule allows us to send a single set of our annual report and proxy statement to any household at which two or more stockholders reside if we believe the stockholders are members of the same family. This rule benefits both you and us by reducing the volume of duplicate information received at your household and helping to reduce our expenses. The rule applies to our annual reports, proxy statements and information statements. Each stockholder will continue to receive a separate proxy card or voting instruction card.

If your household received a single set of disclosure documents for this year, but you would prefer to receive your own copy, please contact our transfer agent, Mellon Investor Services L.L.C., by calling their toll-free number, (800) 635-9270. If you would like to receive your own set of our annual disclosure documents in future years, follow the instructions described below. Similarly, if you share an address with another stockholder and together both of you would like to receive only a single set of our annual disclosure documents, follow these instructions:

- o If your shares are registered in your own name, please contact our transfer agent, Mellon Investor Services, and inform them of your request by calling them at (800) 635-9270 or writing them at 85 Challenger Road, Ridgefield Park, New Jersey 07660.
- o If a broker or other nominee holds your shares, please contact ADP and inform them of your request by calling them at (888) 603-5847 or writing them at Householding Department, 51 Mercedes Way, Edgewood, New York 11717. Be sure to include your name, the name of your brokerage firm and your account number.

STOCK OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table presents information regarding the beneficial ownership of our common stock as of March 25, 2002 by:

- o each of the individuals listed in "Executive Compensation - Summary Compensation Table";
- o each of our directors;
- o each person, or group of affiliated persons, who is known by us to own beneficially five percent or more of our common stock; and
- o all current directors and executive officers as a group.

Beneficial ownership is determined in accordance with the rules of the Securities and Exchange Commission computing the number of shares beneficially owned by a person and the percentage ownership of that person. Shares of common stock under options held by that person that are currently exercisable or exercisable within 60 days of March 25, 2002 are considered outstanding. These shares, however, are not considered outstanding when computing the percentage ownership of each other person.

Except as indicated in the footnotes to this table and pursuant to state community property laws, each stockholder named in the table has sole voting and investment power for the shares shown as beneficially owned by them. Percentage of ownership is based on 52,202,277 shares of common stock outstanding on March 25, 2002. Unless otherwise indicated in the footnotes, the address of each of the individuals named below is: c/o Lexicon Genetics Incorporated, 8800 Technology Forest Place, The Woodlands, Texas 77381.

BENEFICIAL OWNERSHIP

	NUMBER OF SHARES BENEFICIALLY OWNED	SHARES ISSUABLE PURSUANT TO OPTIONS EXERCISABLE WITHIN 60 DAYS OF MARCH 25, 2002	PERCENTAGE OWNERSHIP
Gordon A. Cain (1)	12,991,000	6,000	24.9%
Baylor College of Medicine (2)	4,625,600	--	8.9%
Arthur T. Sands, M.D., Ph.D. (3)	1,032,300	2,192,877	5.9%
Royce & Associates, Inc. (4)	2,721,500	--	5.2%
Julia P. Gregory (5)	82,047	264,932	*
Jeffrey L. Wade, J.D.	3,000	413,821	*
James R. Piggott, Ph.D.	1,000	218,621	*
Brian P. Zambrowicz, Ph.D.	--	771,712	1.5%
C. Thomas Caskey, M.D (6)	450,700	90,623	1.0%
Sam L. Barker, Ph.D.	3,000	19,000	*
Patricia M. Cloherty	--	14,000	*
Robert J. Lefkowitz, M.D.	--	7,000	*
William A. McMinn	1,059,091	6,000	2.0%
All directors and executive officers as a group (20 persons) (1)(3)(5)(6)	15,658,039	4,818,726	35.9%

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- * Represents beneficial ownership of less than 1 percent.
- (1) The number of shares beneficially owned by Mr. Cain includes 2,000,000 shares owned by The Gordon and Mary Cain Foundation, of which Mr. Cain is a trustee. Mr. Cain disclaims beneficial ownership of these shares.
- (2) The address for Baylor College of Medicine is c/o BCM Technologies, Inc., 1709 Dryden Road, Suite 901, Medical Towers Building, Houston, Texas 77030. The number of shares beneficially owned includes 271,280 shares owned by BCM Technologies, Inc.
- (3) The number of shares beneficially owned by Dr. Sands includes 60,000 shares held in the name of minor children and 817,500 shares owned by Sands Associates LP. The general partners of Sands Associates LP are ATS Associates, L.L.C., owned by Dr. Sands, and MES Associates, L.L.C., owned by Dr. Sands' wife.
- (4) Based upon a Schedule 13G filed on February 11, 2002, reflecting the beneficial ownership of our common stock by Royce & Associates, Inc. The address for Royce & Associates, Inc. is 1414 Avenue of the Americas, New York, New York 10019.
- (5) The number of shares beneficially owned by Ms. Gregory includes 6,647 shares held in the name of minor children and trusts for their benefit of which she serves as a trustee.
- (6) The number of shares beneficially owned by Dr. Caskey includes 449,900 shares owned by Cogene Biotech Ventures, L.P., of which Dr. Caskey is President and Chief Executive Officer. Dr. Caskey disclaims beneficial ownership of these shares.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires our directors and officers, and persons who own more than 10% of our common stock, to file initial reports of ownership and reports of changes in ownership of our common stock with the Securities and Exchange Commission. Directors, officers and greater than 10% stockholders are required by Securities and Exchange Commission regulations to furnish us with copies of all such forms that they file.

To our knowledge, based solely on our review of the copies of such reports received by us and on written representations by certain reporting persons that no reports on Form 5 were required, we believe that during the fiscal year ended December 31, 2001, all Section 16(a) filing requirements applicable to our officers, directors and 10% stockholders were complied with in a timely manner.

EQUITY COMPENSATION PLAN INFORMATION

The following table presents aggregate summary information as of December 31, 2001 regarding the common stock that may be issued upon exercise of options, warrants and rights under all of our existing equity compensation plans, including our 2000 Equity Incentive Plan, 2000 Non-Employee Directors' Stock Option Plan and Coelacanth Corporation 1999 Stock Option Plan.

PLAN CATEGORY	(a) NUMBER OF SECURITIES TO BE ISSUED UPON EXERCISE OF OUTSTANDING OPTIONS, WARRANTS AND RIGHTS	(b) WEIGHTED AVERAGE EXERCISE PRICE PER SHARE OF OUTSTANDING OPTIONS, WARRANTS AND RIGHTS	(c) NUMBER OF SECURITIES REMAINING AVAILABLE FOR FUTURE ISSUANCE UNDER EQUITY COMPENSATION PLANS (EXCLUDING SECURITIES REFLECTED IN COLUMN (a))
Equity compensation plans approved by security holders (1)	9,980,837	\$6.0761	3,733,534 (3)(4)(5)
Equity compensation plans not approved by security holders (2)	121,828	2.6984	--
Total.....	10,102,665	6.0354	3,733,534

- (1) Consists of shares of our common stock issued or remaining available for issuance under our 2000 Equity Incentive Plan and 2000 Non-Employee Directors' Stock Option Plan.
- (2) Consists of shares of our common stock issuable upon the exercise of options granted under our Coelacanth Corporation 1999 Stock Option Plan, which we assumed in connection with our July 2001 acquisition of Coelacanth Corporation.
- (3) Includes 3,187,534 shares available for future issuance under our 2000 Equity Incentive Plan, some or all of which may be awarded as stock bonuses.
- (4) Our 2000 Equity Incentive Plan provides that on each January 1, the number of shares available for issuance under the plan will be automatically increased by the greater of (i) five percent of our outstanding shares on a fully-diluted basis or (ii) the number of shares that could be issued under awards granted under the plan during the prior year. Our Board of Directors may provide for a lesser increase in the number of shares available for issuance under the plan.
- (5) Our 2000 Non-Employee Directors' Stock Option Plan provides that on the date of each annual meeting of stockholders, the number of shares available for issuance under the plan will be automatically increased by the greater of (i) 0.3% of our outstanding shares on a fully-diluted basis or (ii) the number of shares that could be issued under options granted under the plan during the prior year. Our Board of Directors may provide for a lesser increase in the number of shares available for issuance under the plan.

COELACANTH CORPORATION 1999 STOCK OPTION PLAN

We assumed the Coelacanth Corporation 1999 Stock Option Plan and the outstanding stock options under the plan in connection with our July 2001 acquisition of Coelacanth Corporation. We will not grant any further options under the plan. As outstanding options under the plan expire or terminate, the number of shares authorized for issuance under the plan will be correspondingly reduced.

The purpose of the plan was to provide an opportunity for employees, directors and consultants of Coelacanth to acquire a proprietary interest, or otherwise increase their proprietary interest, in Coelacanth as an incentive to continue their employment or service. Both incentive and nonstatutory options are outstanding under the plan. Most outstanding options vest over time and expire ten years from the date of grant. The exercise price of options awarded under the plan was determined by the plan administrator at the time of grant. In general, incentive stock options have an exercise price of 100% or more of the fair market value of Coelacanth common stock on the date of grant and nonstatutory stock options have an exercise price as low as 85% of fair market value on the date of grant.

PROPOSAL NUMBER 1:
ELECTION OF DIRECTORS

Our Board of Directors, which currently has seven members, is divided or "classified" into three classes. Directors in each class are elected to hold office for a term ending on the date of the third annual meeting following the annual meeting at which they were elected. The current term of our Class II directors will expire at this annual meeting. The current terms of our Class III directors and Class I director will expire at our 2003 and 2004 annual meetings of stockholders, respectively.

The Board of Directors has nominated and urges you to vote for the election of the individuals identified below, who have been nominated to serve as Class II directors until the 2005 annual meeting of stockholders or until their successors are duly elected and qualified. Each of these individuals is a member of our present Board of Directors. Your signed proxy will be voted for the nominees named below unless you specifically indicate on the proxy that you are withholding your vote.

NOMINEES FOR CLASS II DIRECTORS

The following individuals are nominated for election as Class II directors:

NAME - - - - -	AGE ---	POSITION WITH THE COMPANY -----	YEAR FIRST BECAME A DIRECTOR -----
Sam L. Barker, Ph.D.	59	Director (Class II)	2000
Gordon A. Cain	89	Director (Class II)	1995
Patricia M. Cloherty	59	Director (Class II)	1998

Sam L. Barker, Ph.D. has been a director since March 2000. Since March 2001, Dr. Barker has served as a founder and principal of Clearview Projects, Inc., a company engaged in providing partnering and transaction services to biotechnology companies. Dr. Barker served in a series of senior domestic and international management positions at Bristol-Myers Squibb until his retirement in 1998. His positions at Bristol-Myers Squibb included service as Executive Vice President, Worldwide Franchise Management and Strategy during 1998, President, U.S. Pharmaceutical Group from 1995 to 1997 and President, U.S. Pharmaceuticals from 1992 to 1995. Dr. Barker received his B.S. from Henderson State College, his M.S. from the University of Arkansas and his Ph.D. from Purdue University.

Gordon A. Cain has been a director since September 1995 and served as Chairman of our Board of Directors from September 1995 until July 1999. Mr. Cain also serves as Chairman of the Board of Agennix Inc., another biotechnology company in which he is a principal investor. From August 1982 until his retirement in December 1992, he was Chairman of the Board of The Sterling Group, Inc. Mr. Cain was the Chairman of the Board of Sterling Chemicals, Inc. from 1986 until it was sold in August 1996 and was a member of the board of directors of Arcadian Corporation from May 1989 until it was sold in April 1997. Prior to organizing The Sterling Group, Mr. Cain was involved in the purchase of a variety of businesses and provided consulting services to these and other companies. Mr. Cain was also Chairman of the Board of Cain Chemical Inc. from its organization in March 1987 until its acquisition by Occidental Petroleum Corporation in May 1988 and the Chairman of the Board of Vista Chemical Company from 1984 until 1986. Mr. Cain presently serves as a director of Texas Petrochemicals Corporation. He received a B.S. in Chemical Engineering from Louisiana State University.

Patricia M. Cloherty has been a director since May 1998. Ms. Cloherty has served as Chairman of the U.S. Russia Investment Fund, established by the United States government to invest in Russian companies, since she was appointed by the President to that position in 1998. From 1973 through 1999, she was General Partner of Patricof & Co. Ventures, Inc., an international venture capital company, and successively served as Senior Vice President, President and Co-Chairman of that company. Ms. Cloherty served as deputy administrator of the U.S. Small Business Administration from 1977 to 1978 and has served as Director of the U.S. Russia Investment Fund since 1995. She is past president and chairman of the National Venture Capital Association. Ms. Cloherty serves as a director of Diversa Corporation and several private companies and philanthropies. She holds a B.A. from the San Francisco College for Women and an M.A. and an M.I.A. from Columbia University.

THE BOARD OF DIRECTORS RECOMMENDS THAT STOCKHOLDERS VOTE "FOR" THE FOREGOING NOMINEES FOR ELECTION AS CLASS II DIRECTORS.

CURRENT AND CONTINUING DIRECTORS

The current directors of the Company are identified below:

NAME ----	AGE ---	POSITION WITH THE COMPANY -----
Arthur T. Sands, M.D., Ph.D.	40	President and Chief Executive Officer and Director (Class III)
C. Thomas Caskey, M.D.	63	Chairman of the Board of Directors (Class III)
Sam L. Barker, Ph.D. (1) (2).....	59	Director (Class II)
Gordon A. Cain	89	Director (Class II)
Patricia M. Cloherty (1) (2).....	59	Director (Class II)
Robert J. Lefkowitz, M.D.	58	Director (Class I)
William A. McMinn (1).....	71	Director (Class III)

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- (1) Member of the Audit Committee.
- (2) Member of the Compensation Committee.

Information regarding the business experience of Dr. Barker, Mr. Cain and Ms. Cloherty are set forth above under the heading "--Nominees for Class II Directors."

Arthur T. Sands, M.D., Ph.D. co-founded our company and has been our President and Chief Executive Officer and a director since September 1995. From 1992 to September 1995, Dr. Sands served as an American Cancer Society postdoctoral fellow in the Department of Human and Molecular Genetics at Baylor College of Medicine, where he studied the function of the p53 gene in cancer formation and created the XPC knockout mouse, a model for skin cancer. He received his B.A. in Economics and Political Science from Yale University and his M.D. and Ph.D. from Baylor College of Medicine.

C. Thomas Caskey, M.D. became Chairman of our Board of Directors in April 2000. Dr. Caskey has been President and Chief Executive Officer of CoGene Biotech Ventures, Ltd., a venture capital firm, since April 2000. He served as Senior Vice President, Research at Merck Research Laboratories from 1995 to March 2000 and as President of the Merck Genome Research Institute from 1996 to March 2000. Before joining Merck, Dr. Caskey served 25 years at Baylor College of Medicine in a series of senior positions, including Chairman, Department of Human and Molecular Genetics and Director, Human Genome Center. He is a member of the National Academy of Sciences. Dr. Caskey serves as a director of Luminex Corporation and several private companies. He received his B.A. from the University of South Carolina and his M.D. from Duke University Medical School.

Robert J. Lefkowitz, M.D. has been a director since February 2001. Dr. Lefkowitz is the James B. Duke Professor of Medicine, Professor of Biochemistry and a Howard Hughes Medical Institute investigator at Duke University Medical Center, where he has served on the faculty since 1973. He is a member of the National Academy of Sciences. Dr. Lefkowitz received his B.A. from Columbia University and his M.D. from Columbia University College of Physicians and Surgeons.

William A. McMinn has been a director since September 1997 and was the Chairman of our Board of Directors from July 1999 until April 2000. Mr. McMinn has served as Chairman of the Board of Texas Petrochemicals Corporation since 1996. He was Corporate Vice President and Manager of the Industrial Chemical Group of FMC Corporation, a manufacturer of machinery and chemical products, from 1973 through 1985. He became President and Chief Executive Officer of Cain Chemical Inc. in 1987, and served in that capacity until its acquisition by Occidental Petroleum in May 1988. He became Chairman of the board of directors of Arcadian

Corporation in August 1990 and served in that capacity until it was sold in April 1997. Mr. McMinn received his B.S. from Vanderbilt University.

BOARD COMMITTEES

Audit Committee. Our audit committee reviews our internal accounting procedures and consults with, and reviews the services provided by, our independent public accountants. Current members of our audit committee are William A. McMinn, Sam L. Barker, Ph.D. and Patricia M. Cloherty.

Compensation Committee. Our compensation committee evaluates the performance of management, determines the compensation of our executive officers and reviews general policy relating to compensation and benefits of our employees. The compensation committee also administers the issuance of stock options and other awards under our 2000 Equity Incentive Plan. Current members of the compensation committee are Sam L. Barker, Ph.D. and Patricia M. Cloherty.

BOARD AND COMMITTEE MEETINGS IN 2001

The Board of Directors met six times in 2001 and took certain additional actions by unanimous written consent in lieu of meetings. The audit committee and compensation committee each met four times in 2001. During 2001, none of our directors attended fewer than 75 percent of the meetings of the Board of Directors or committee during the period served.

DIRECTOR COMPENSATION

Each non-employee director currently receives a fee of \$2,000 for each meeting of the Board of Directors that he or she attends in person, and \$500 for each committee meeting (other than a committee meeting held at the same time as a meeting of the full Board of Directors) or telephonic meeting of the Board of Directors in which he or she participates. Directors who are also employees, currently Arthur T. Sands, M.D., Ph.D. and C. Thomas Caskey, M.D., do not receive additional compensation for their service as directors. All directors are reimbursed for expenses in connection with attendance at board of directors and committee meetings.

Dr. Caskey receives a salary of \$150,000 per year for his service as an employee and Chairman of our Board of Directors. In January 2001, Dr. Caskey and Patricia M. Cloherty received options under our 2000 Equity Incentive Plan to purchase 50,000 and 30,000 shares, respectively, of common stock at an exercise price of \$12.375 per share, the fair market value of our common stock on the date of grant as determined by our Board of Directors.

Our 2000 Non-employee Directors' Stock Option Plan provides for the automatic grant of options to purchase shares of common stock to our directors who are not employees. Non-employee directors first elected after the closing of our initial public offering receive an initial option to purchase 30,000 shares of common stock. In addition, all non-employee directors receive an annual option to purchase 6,000 shares of common stock. All options granted under the non-employee directors' plan will have an exercise price equal to the fair market value of our common stock on the date of grant.

An initial option to purchase 30,000 shares of common stock at an exercise price of \$9.25 per share, the fair market value of our common stock on the date of grant as determined in accordance with the terms of the plan, was granted to Dr. Lefkowitz in March 2001 under the non-employee directors' plan in connection with his election as a director. Options to purchase 6,000 shares of common stock at an exercise price of \$8.20 per share, the fair market value of our common stock on the date of grant as determined in accordance with the terms of the plan, were granted to each of Dr. Barker, Mr. Cain, Ms. Cloherty, and Mr. McMinn in April 2001 under the non-employee directors' plan at the time of our 2001 annual meeting of stockholders.

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

During 2001, Patricia M. Cloherty and Sam L. Barker, Ph.D. served as members of the compensation committee of our board of

directors. No member of the compensation committee serves as a member of the board of directors or compensation committee of any other entity that has one or more executive officers serving as a member of our board of directors or compensation committee.

PROPOSAL NUMBER 2:
RATIFICATION AND APPROVAL OF INDEPENDENT PUBLIC ACCOUNTANTS

The Board of Directors has appointed the firm of Ernst & Young LLP as our independent public accountants to make an examination of our accounts for the fiscal year ending December 31, 2002, subject to ratification by our stockholders. Representatives of both Ernst & Young LLP and Arthur Andersen LLP, our independent public accountants for the year ended December 31, 2001, are expected to be present at the annual meeting, will have an opportunity to make a statement if they desire to do so and are expected to be available to respond to appropriate questions.

THE BOARD OF DIRECTORS RECOMMENDS THAT STOCKHOLDERS VOTE "FOR" RATIFICATION AND APPROVAL OF THE APPOINTMENT OF ERNST & YOUNG LLP AS OUR INDEPENDENT PUBLIC ACCOUNTANTS FOR THE FISCAL YEAR ENDING DECEMBER 31, 2002.

CHANGE IN INDEPENDENT PUBLIC ACCOUNTANTS

On March 26, 2002, the Board of Directors and its audit committee dismissed Arthur Andersen LLP as our independent public accountants and engaged Ernst & Young LLP to serve as our independent public accountants for the fiscal year ending December 31, 2002, subject to stockholder ratification.

Arthur Andersen's reports on our consolidated financial statements for each of the fiscal years ended December 31, 2001 and 2000 did not contain an adverse opinion or disclaimer of opinion, nor were they qualified or modified as to uncertainty, audit scope or accounting principles.

During the fiscal years ended December 31, 2001 and 2000 and through the date of the Board of Directors' decision, there were no disagreements with Arthur Andersen on any matter of accounting principle or practice, financial statement disclosure, or auditing scope or procedure which, if not resolved to Arthur Andersen's satisfaction, would have caused them to make reference to the subject matter in connection with their report on our consolidated financial statements for such years; and there were no reportable events as defined in Item 304(a)(1)(v) of Regulation S-K.

During the fiscal years ended December 31, 2001 and 2000 and through the date of the Board of Directors' decision, we did not consult Ernst & Young with respect to the application of accounting principles to a specified transaction, either completed or proposed, or the type of audit opinion that might be rendered on our consolidated financial statements, or any other matters or reportable events as set forth in Items 304(a)(2)(i) and (ii) of Regulation S-K.

COMPENSATION OF INDEPENDENT PUBLIC ACCOUNTANTS

Audit Fees

The estimated aggregate fees billed and to be billed by Arthur Andersen LLP for professional services rendered for the audit of our annual financial statements for the fiscal year ended December 31, 2001 and for the reviews of the financial statements included in our quarterly reports on Form 10-Q for that fiscal year were \$129,000.

Financial Information Systems Design and Implementation Fees

Arthur Andersen LLP did not provide us any information technology services relating to financial information systems design and implementation in 2001.

All Other Fees

The aggregate fees billed by Arthur Andersen LLP for services rendered to us in 2001, other than the services described above under "Audit Fees" and "Financial Information Systems Design and Implementation Fees," were \$103,137. These fees related primarily to the preparation of tax returns, an audit of our 401(k) plan and services in connection with our synthetic lease.

As part of its duties, the audit committee of our Board of Directors has considered whether the provision of services other than audit services during the fiscal year ended December 31, 2001 by Arthur Andersen LLP is compatible with maintaining the accountants' independence.

REPORT OF THE AUDIT COMMITTEE OF THE BOARD OF DIRECTORS

The audit committee of our Board of Directors currently consists of William A. McMinn, Sam L. Barker, Ph.D. and Patricia M. Cloherty. The Board of Directors, in its business judgment, has determined that all members of the audit committee are "independent," as required by applicable listing standards of The Nasdaq Stock Market, Inc. The committee has furnished the following report for 2001:

The role of the audit committee is to assist the Board of Directors in its oversight of our financial reporting process. The audit committee reviews our internal accounting procedures and consults with, and reviews the services provided by, our independent public accountants. The committee operates pursuant to a charter that was last amended and restated by the Board of Directors on March 15, 2000.

The management of our company is responsible for the preparation, presentation and integrity of our financial statements, our accounting and financial reporting principles and internal controls and procedures designed to assure compliance with the accounting standards and applicable laws and regulations. Our independent public accountants are responsible for auditing our financial statements and expressing an opinion as to their conformity with generally accepted accounting principles.

In the performance of its oversight function, the audit committee has considered and discussed the audited financial statements with management and our independent public accountants. The committee has also discussed with our independent public accountants the matters required to be discussed by Statement on Auditing Standards No. 61, Communication with Audit Committees, as currently in effect. Finally, the committee has received the written disclosures and the letter from the independent public accountants required by Independence Standards Board Standard No. 1, Independence Discussions with Audit Committees, as currently in effect, and has discussed with the independent public accountants their independence.

Based upon the reports and discussions described in this report, and subject to the limitations on the role and responsibilities of the audit committee referred to in the audit committee charter, the committee recommended to the Board of Directors that the audited financial statements be included in our annual report on Form 10-K for the year ended December 31, 2001.

AUDIT COMMITTEE

William A. McMinn
Sam L. Barker, Ph.D.
Patricia M. Cloherty

The foregoing report of the audit committee shall not be deemed incorporated by reference by any general statement incorporating by reference this proxy statement into any filing under the Securities Act of 1933 or under the Securities Exchange Act of 1934, except to the extent that we specifically incorporate this information by reference, and shall not otherwise be deemed filed under such acts.

EXECUTIVE COMPENSATION

EXECUTIVE OFFICERS

The executive officers of the Company and their ages and positions are listed below.

NAME - - - - -	AGE ---	POSITION WITH THE COMPANY -----
Arthur T. Sands, M.D., Ph.D.	40	President and Chief Executive Officer and Director
Julia P. Gregory	49	Executive Vice President and Chief Financial Officer
Jeffrey L. Wade, J.D.	37	Executive Vice President and General Counsel
Alan J. Main, Ph.D.	48	Senior Vice President, Lexicon Pharmaceuticals
James R. Piggott, Ph.D.	47	Senior Vice President of Pharmaceutical Biology
Randall B. Riggs	35	Senior Vice President of Business Development
Brian P. Zambrowicz, Ph.D.	39	Senior Vice President of Genomics
David A. Boulton	44	Vice President of Technology Operations, Lexicon Pharmaceuticals
Walter F. Colbert	52	Vice President of Human Resources
Lance K. Ishimoto, Ph.D., J.D.	42	Vice President of Intellectual Property
Hartmuth Kolb, Ph.D.	37	Vice President of Chemistry, Lexicon Pharmaceuticals
Stephen J. McAndrew, Ph.D.	47	Vice President of Pharmaceutical Business Development
Christophe Person	35	Vice President of Informatics

Information regarding the business experience of Dr. Sands is set forth above under the heading "Election of Directors--Current and Continuing Directors."

Julia P. Gregory has been our Executive Vice President and Chief Financial Officer since February 2000. From 1998 to February 2000, Ms. Gregory served as the Head of Investment Banking for Punk, Ziegel & Company, a specialty investment banking firm focusing on technology and healthcare and, from 1996 to February 2000, as the Head of the firm's Life Sciences practice. From 1980 to 1996, Ms. Gregory was an investment banker with Prime Charter Ltd. and then Dillon, Read & Co., Inc., where she represented life sciences companies beginning in 1986. Ms. Gregory is a member of the Board of Directors and the Scientific Advisory Board of the Estee Lauder Foundation's Institute for the Study of Aging, Inc., a member of the Board of Directors of the Cynthia Woods Mitchell Pavilion and a member of The Elliott School of International Affairs International Council. She received her B.A. in International Affairs from George Washington University and her M.B.A. from the Wharton School of the University of Pennsylvania.

Jeffrey L. Wade, J.D. has been our Executive Vice President and General Counsel since February 2000 and was our Senior Vice President and Chief Financial Officer from January 1999 to February 2000. From 1988 through December 1998, Mr. Wade was a corporate securities and finance attorney with the law firm of Andrews & Kurth L.L.P., for the last two years as a partner, where he represented companies in the biotechnology, information technology and energy industries. Mr. Wade is a member of the boards of directors of the Texas Healthcare and Bioscience Institute and the Texas Life Sciences Foundation. He received his B.A. and J.D. from The University of Texas.

Alan J. Main, Ph.D. has been our Senior Vice President, Lexicon Pharmaceuticals since July 2001. Dr. Main was President and Chief Executive Officer of Coelacanth Corporation, a leader in using proprietary chemistry technologies to rapidly discover new chemical entities for drug development, from January 2000 until our acquisition of Coelacanth in July 2001. Dr. Main was formerly Senior Vice President, U.S. Research at Novartis Pharmaceuticals Corporation, where he worked for 20 years before joining Coelacanth. Dr. Main holds a Ph.D. in Organic Chemistry from the University of Liverpool, England and completed postdoctoral studies at the Woodward Research Institute.

James R. Piggott, Ph.D. has been our Senior Vice President of Pharmaceutical Biology since January 2000. From 1990 through October 1999, Dr. Piggott worked for ZymoGenetics, Inc., a subsidiary of Novo Nordisk, most recently as Senior Vice President--Research Biology. Dr. Piggott's pharmaceutical research experience also includes service at the Smith Kline & French Laboratories Ltd. unit of SmithKline Beecham plc and the G.D. Searle & Co. unit of Monsanto Company. Dr. Piggott received his B.A. and Ph.D. from Trinity College, Dublin.

Randall B. Riggs has been our Senior Vice President of Business Development since February 2000 and served as our Vice President of Business Development from December 1998 to February 2000. From January through November 1998, Mr. Riggs was director of Business Development for the Infectious Disease Business Unit of GENEMEDICINE, INC. From 1992 to January 1998, Mr. Riggs was employed by Eli Lilly and Company, for the last two years as Manager, Corporate Business Development at Eli Lilly's Indianapolis, Indiana headquarters. Before joining Eli Lilly, Mr. Riggs' experience included service as a business analyst for the National Aeronautics and Space Administration and a subsidiary of Amoco Production Company. He received his B.B.A. from Texas A&M University and his M.B.A. from The University of Houston.

Brian P. Zambrowicz, Ph.D. has been our Senior Vice President of Genomics since February 2000. Dr. Zambrowicz served as our Vice President of Research from January 1998 to February 2000 and as Senior Scientist from April 1996 to January 1998. From 1993 to April 1996, Dr. Zambrowicz served as an NIH postdoctoral fellow at The Fred Hutchinson Cancer Center in Seattle, Washington, where he studied gene trapping and gene targeting technology. Dr. Zambrowicz received his B.S. in Biochemistry from the University of Wisconsin. He received his Ph.D. from the University of Washington, where he studied tissue-specific gene regulation using transgenic mice.

David A. Boulton has been our Vice President of Technology Operations, Lexicon Pharmaceuticals since July 2001. Mr. Boulton co-founded Coelacanth and served as its Vice President of Technology Operations from October 1996 until our acquisition of Coelacanth in July 2001. From April 1994 to October 1996, Mr. Boulton was Senior Director of Automated Synthesis at ArQule, Inc., where he was instrumental in developing ArQule's chemical automation platform. Before joining ArQule, he served for 15 years in chemistry research and development at Merck & Co., Inc. and was a founding member of Merck's automated synthesis group. He holds a B.S. in Chemistry from Lafayette College.

Walter F. Colbert has been our Vice President of Human Resources since December 2000. From September 1997 to December 2000, Mr. Colbert was Vice President, Human Resources and Public Affairs at the Sony Technology Center--San Diego of Sony Electronics Inc. From September 1995 to September 1997, Mr. Colbert served as Vice President, Human Resources for The NutraSweet Kelco Company, Monsanto Company's food ingredients business unit. From 1976 through September 1995, Mr. Colbert served in a variety of human resources positions in the United States and Europe with Ford Motor Company and Monsanto Company. He received his B.A. in Political Science from Stanford University and his M.A. in International Affairs from The Fletcher School of Law and Diplomacy at Tufts University.

Lance K. Ishimoto, J.D., Ph.D. has been our Vice President of Intellectual Property since July 1998. From 1994 to July 1998, Dr. Ishimoto was a biotechnology patent attorney at the Palo Alto, California office of Pennie & Edmonds LLP. Dr. Ishimoto received his B.A. and Ph.D. from the University of California at Los Angeles, where he studied molecular mechanisms of virus assembly and the regulation of virus ultrastructure. After receiving his Ph.D., Dr. Ishimoto served as an NIH postdoctoral fellow at University of Washington School of Medicine. He received his J.D. from Stanford University.

Hartmuth Kolb, Ph.D. has been our Vice President of Chemistry, Lexicon Pharmaceuticals since July 2001. From June 1997 until our acquisition of Coelacanth in July 2001, Dr. Kolb worked in several different capacities with Coelacanth, most recently as Chief Operating Officer and Vice President of Chemistry. Before joining Coelacanth, Dr. Kolb was with Novartis Pharmaceuticals Corporation, where he worked on the development of carbohydrate-derived drugs. Dr. Kolb received his Ph.D. from the Imperial College of Science, Technology and Medicine, London, and completed postdoctoral studies at the Scripps Research Institute.

Stephen J. McAndrew, Ph.D. has been our Vice President of Pharmaceutical Business Development since January 2002. From March 1990 to December 2001, he held increasing levels of responsibility at Bristol-Myers Squibb Company, leading to his final position of Director of Biotechnology Licensing at the Bristol-Myers Squibb Pharmaceutical Research Institute. In this position, he was primarily responsible for identifying, evaluating and negotiating numerous pre-clinical lead compound collaborations and platform technology alliances. Before his 11-year career at Bristol-Myers Squibb, Dr. McAndrew spent seven years conducting basic research at the Roche Institute of Molecular Biology at Hoffmann LaRoche. He received his B.S. from State University College at Oswego, New York and holds a Ph.D. in molecular and cellular biology from Ohio University.

Christophe Person has been our Vice President of Informatics since November 1999 and served as our Director of Informatics from May 1997 to November 1999. From 1994 to May 1997, Mr. Person was the Senior Scientific Programmer for the Center for Theoretical Neurosciences at Baylor College of Medicine. From 1990 to 1994, Mr. Person was the CEPH Database Manager at the Human Polymorphism Studies Center in Paris, France. Mr. Person received his degree in Electrical Engineering from Groupe ESTE/ESIEE (Ecole Superieure de Technologie Electronique/Ecole Superieure d'Ingenieurs en Electrotechnique et Electronique).

SUMMARY COMPENSATION TABLE

The following table presents summary information for the years ended December 31, 1999, 2000 and 2001 regarding the compensation of each of our five most highly compensated executive officers.

NAME AND POSITION	YEAR	ANNUAL COMPENSATION		LONG-TERM COMPENSATION AWARDS SECURITIES UNDERLYING OPTIONS	ALL OTHER COMPENSATION(1)
		SALARY	BONUS		
Arthur T. Sands, M.D., Ph.D. President, Chief Executive Officer and Director	2001	\$ 400,000	\$ 250,000	100,000	\$ 79,644
	2000	\$ 270,833	\$ 175,812	555,000	\$ 78,824
	1999	\$ 200,000	\$ 50,000	--	\$ --
Julia P. Gregory (2) Executive Vice President and Chief Financial Officer	2001	\$ 260,000	\$ 125,000	60,000	\$ 5,680
	2000	\$ 179,615	\$ 75,000	555,000	\$ 17,829
Jeffrey L. Wade, J.D. Executive Vice President and General Counsel	2001	\$ 250,000	\$ 85,000	50,000	\$ 5,730
	2000	\$ 198,333	\$ 56,277	135,000	\$ 4,778
	1999	\$ 170,000	\$ 25,000	390,000	\$ --
James R. Piggott, Ph.D. (3) Senior Vice President of Pharmaceutical	2001	\$ 250,000	\$ 80,000	50,000	\$ 5,730
	2000	\$ 191,666	\$ 48,800	360,000	\$ 8,739
Brian P. Zambrowicz, Ph.D. Senior Vice President of Genomics	2001	\$ 250,000	\$ 100,000	50,000	\$ 5,730
	2000	\$ 206,250	\$ 47,953	210,000	\$ 4,778
	1999	\$ 175,000	\$ --	--	\$ --

- (1) Other compensation during 2001 and 2000 includes the following amounts in respect of company matching contributions under our 401(k) plan, company-paid premiums for group term and split-dollar life insurance, and payment or reimbursement of relocation expenses:

	YEAR	COMPANY 401(k) MATCHING CONTRIBUTION	COMPANY-PAID GROUP TERM LIFE INSURANCE PREMIUMS	COMPANY-PAID SPLIT-DOLLAR LIFE INSURANCE PREMIUMS	RELOCATION EXPENSES
	----	-----	-----	-----	-----
Arthur T. Sands, M.D., Ph.D.....	2001	\$ 5,250	\$ 480	\$ 73,914	\$ --
	2000	\$ 4,250	\$ 660	\$ 73,914	\$ --
Julia P. Gregory.....	2001	\$ 5,200	\$ 480	\$ --	\$ --
	2000	\$ --	\$ 440	\$ --	\$ 17,389
Jeffrey L. Wade, J.D.....	2001	\$ 5,250	\$ 480	\$ --	\$ --
	2000	\$ 4,250	\$ 528	\$ --	\$ --
James R. Piggott, Ph.D.....	2001	\$ 5,250	\$ 480	\$ --	\$ --
	2000	\$ 4,250	\$ 484	\$ --	\$ 4,005
Brian P. Zambrowicz, Ph.D.....	2001	\$ 5,250	\$ 480	\$ --	\$ --
	2000	\$ 4,250	\$ 528	\$ --	\$ --

The company-paid life insurance premiums in the foregoing table reflect payments for group term life policies maintained for the benefit of all employees, with exception of the additional premiums paid under a split-dollar life insurance arrangement for Dr. Sands under his employment agreement with us. Upon the death of Dr. Sands, we will receive cash under the policy in an amount equal to the aggregate premiums we paid for the policy, and the balance of the proceeds will be paid to the trust that is the beneficiary of the policy.

- (2) Ms. Gregory joined us in February 2000. Her base salary for 2000 reflects compensation at an annualized rate of \$200,000 for the portion of the year she was an employee.
- (3) Dr. Piggott joined us in January 2000. His base salary for 2000 reflects compensation at an annualized rate of \$200,000 for the portion of the year he was an employee.

OPTION GRANTS IN 2001

The following table presents each grant of stock options in 2001 to the individuals named in the summary compensation table.

NAME	NUMBER OF SECURITIES UNDERLYING OPTIONS GRANTED	PERCENTAGE OF TOTAL OPTIONS GRANTED TO EMPLOYEES IN 2001	EXERCISE PRICE PER SHARE	EXPIRATION DATE	POTENTIAL REALIZABLE VALUE AT ASSUMED ANNUAL RATES OF STOCK PRICE APPRECIATION FOR OPTION TERM	
					5%	10%
----	-----	-----	-----	-----	-----	-----
Arthur T. Sands, M.D., Ph.D.....	100,000	4.6%	\$14.44	2/2/2011	\$907,967	\$2,300,966
Julia P. Gregory.....	60,000	2.7%	\$14.44	2/2/2011	\$544,780	\$1,380,579
Jeffrey L. Wade, J.D.....	50,000	2.3%	\$14.44	2/2/2011	\$453,983	\$1,150,483
James R. Piggott, Ph.D.....	50,000	2.3%	\$14.44	2/2/2011	\$453,983	\$1,150,483
Brian P. Zambrowicz, Ph.D.....	50,000	2.3%	\$14.44	2/2/2011	\$453,983	\$1,150,483

The exercise price of each of the options in the foregoing table was equal to the fair market value of our common stock as determined by our Board of Directors on the date of grant. The exercise price for each option may be paid in cash, promissory notes, in shares of our common stock valued at fair market value on the exercise date or through a cashless exercise procedure involving a same-day sale of the purchased shares.

The potential realizable value of these options is calculated based on the ten-year term of the option at the time of grant. Stock price appreciation of 5% and 10% is assumed pursuant to rules promulgated by the Securities and Exchange Commission and does not represent our prediction of our stock price performance.

Percentages shown under "Percentage of Total Options Granted to Employees in 2001" are based on an aggregate of 2,184,725 options granted to our employees under our 2000 Equity Incentive Plan during 2001.

AGGREGATED OPTION EXERCISES IN 2001 AND OPTION VALUES AT DECEMBER 31, 2001

The following table presents information about:

- o option exercises in 2001 by each of the individuals listed in the summary compensation table; and
- o the number and value of the shares of common stock underlying unexercised options that are held by each of the individuals listed in the summary compensation table as of December 31, 2001.

Amounts shown under the column "Value Realized" are based on the market price of our common stock on the date of exercise, without taking into account any taxes that may be payable in connection with the transaction, less the exercise price paid for the purchased shares.

Amounts shown under the column "Value of Unexercised In-the-Money Options at December 31, 2001" are based on the closing price of our common stock on The Nasdaq National Market on December 31, 2001 of \$11.54 per share, without taking into account any taxes that may be payable in connection with the transaction, less the exercise price payable for these shares.

NAME	SHARES ACQUIRED ON EXERCISE	VALUE REALIZED	NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS AT DECEMBER 31, 2001		VALUE OF UNEXERCISED IN-THE-MONEY OPTIONS AT DECEMBER 31, 2001	
			EXERCISABLE	UNEXERCISABLE	EXERCISABLE	UNEXERCISABLE
Arthur T. Sands, M.D., Ph.D.....	15,000	\$ 139,801	2,065,767	494,233	\$ 20,686,819	\$ 3,563,866
Julia P. Gregory.....	27,000	\$ 189,382	203,370	360,630	\$ 1,838,465	\$ 2,717,695
Jeffrey L. Wade, J.D.....	8,000	\$ 55,200	354,523	210,477	\$ 3,204,888	\$ 1,450,712
James R. Piggott, Ph.D.....	6,000	\$ 40,952	176,830	227,170	\$ 1,598,543	\$ 1,601,617
Brian P. Zambrowicz, Ph.D.....	10,000	\$ 90,923	714,680	225,320	\$ 1,584,893	\$ 6,786,141

EMPLOYMENT AGREEMENTS

In October 1999, we entered into an employment agreement with Arthur T. Sands, M.D., Ph.D., our President and Chief Executive Officer. Under the agreement, Dr. Sands received an initial base salary of \$200,000 a year, subject to adjustment, with an annual discretionary bonus based upon specific objectives to be determined by the compensation committee. Dr. Sands' current annual salary is \$432,000. The employment agreement is at-will and contains a non-competition agreement. The agreement also provides that if we terminate Dr. Sands' employment without cause or Dr. Sands voluntarily terminates his employment for good reason, we will pay him his then-current salary for 12 months.

In February 2000, we entered into an employment agreement with Julia P. Gregory to serve as our Executive Vice President and Chief Financial Officer starting in February 2000. Under the agreement, Ms. Gregory received an initial base salary of \$200,000 a year, subject to adjustment, with an annual discretionary bonus based upon specific objectives to be determined by the compensation committee. Ms. Gregory's current annual salary is \$286,000. The employment agreement is at-will and contains a non-competition agreement. The agreement also provides that if we terminate Ms. Gregory's employment without cause or Ms. Gregory voluntarily terminates her employment for good reason, we will pay her then-current salary for six months. If any such termination follows a change in control of our company, we will pay Ms. Gregory her then-current salary for 12 months.

In December 1998, we entered into an employment agreement with Jeffrey L. Wade, J.D. to serve as our Senior Vice President and Chief Financial Officer starting in January 1999. In February 2000, Mr. Wade was named Executive Vice President and General Counsel. Under the agreement, Mr. Wade received an initial base salary of \$170,000 a year, subject to adjustment, with an annual discretionary bonus based upon specific objectives to be

determined by the compensation committee. Mr. Wade's current annual salary is \$266,250. The employment agreement is at-will and contains a non-competition agreement. The agreement also provides that if we terminate Mr. Wade's employment without cause or Mr. Wade voluntarily terminates his employment for good reason, we will pay him his then-current salary for six months. If any such termination follows a change in control of our company, we will pay Mr. Wade his then-current salary for 12 months.

In January 2000, we entered into an employment agreement with James R. Piggott, Ph.D. to serve as our Senior Vice President of Pharmaceutical Biology. Under the agreement, Dr. Piggott received an initial base salary of \$200,000 a year, subject to adjustment, with an annual discretionary bonus based upon specific objectives to be determined by the compensation committee. Dr. Piggott's current annual salary is \$266,250. The employment agreement is at-will and contains a non-competition agreement. The agreement also provides that if we terminate Dr. Piggott's employment without cause or Dr. Piggott voluntarily terminates his employment for good reason, we will pay him his then-current salary for six months. If any such termination follows a change in control of our company, we will pay Dr. Piggott his then-current salary for 12 months.

In February 2000, we entered into an employment agreement with Brian P. Zambrowicz, Ph.D., our Senior Vice President of Genomics. Under the agreement, Dr. Zambrowicz received an initial base salary of \$200,000 a year, subject to adjustment, with an annual discretionary bonus based upon specific objectives to be determined by the compensation committee. Dr. Zambrowicz's current annual salary is \$275,000. The employment agreement is at-will and contains a non-competition agreement. The agreement also provides that if we terminate Dr. Zambrowicz employment without cause or Dr. Zambrowicz voluntarily terminates his employment for good reason, we will pay him his then-current salary for six months. If any such termination follows our change in control, we will pay Dr. Zambrowicz his then-current salary for 12 months.

REPORT OF THE COMPENSATION COMMITTEE OF THE BOARD OF DIRECTORS

The compensation committee of our Board of Directors currently consists of Sam L. Barker, Ph.D. and Patricia M. Cloherty, neither of whom is an officer or employee of the company.

The compensation committee is responsible for evaluating the performance of management, determining the compensation of our executive officers and administering our 2000 Equity Incentive Plan, under which stock option grants and other stock awards may be made to our employees. The committee has furnished the following report on executive compensation for 2001:

Executive Compensation Policies and Practices

Under the supervision of the compensation committee, our company has developed a compensation policy which is designed to attract and retain key executives responsible for our success and motivate management to enhance long-term stockholder value. The annual compensation package for executive officers primarily consists of:

- o a cash salary, which reflects the responsibilities relating to the position and individual performance;
- o variable performance awards payable in cash or stock and tied to the achievement of certain individual and corporate goals and milestones; and
- o long-term stock based incentive awards which strengthen the mutuality of interests between our executive officers and our stockholders.

In determining the level and composition of compensation of each of our executive officers, the compensation committee takes into account various qualitative and quantitative indicators of corporate and individual performance. Although no specific target has been established, the committee generally seeks to set salaries at the median to high end of the range in comparison to peer group companies. In setting such salaries, the committee considers our peer group to be similarly sized companies in the biotechnology industry. This peer group

does not necessarily coincide with the companies comprising the Nasdaq Biotechnology Index reflected in the performance graph in this proxy statement. Because our business and technology are continuing to develop, the use of certain traditional performance standards, such as profitability and return on equity, are not currently appropriate in evaluating the performance of our executive officers. Consequently, in evaluating the performance of management, the committee takes into consideration such factors as our achievement of specified milestones and goals with respect to our revenues, new business development, and our research and development programs. In addition, the committee recognizes performance and achievements that are more difficult to quantify, such as the successful supervision of major corporate projects and demonstrated leadership ability.

Base Compensation

Base compensation is established through negotiation between the company and the executive officer at the time the executive is hired, and then subsequently adjusted when the officer's base compensation is subject to review or reconsideration. While we have entered into employment agreements with certain of our executive officers, these agreements provide that base salaries after the initial year will be reviewed and determined by the committee. When establishing or reviewing base compensation levels for executive officers, the committee, in accordance with its general compensation policy, considers numerous factors, including the responsibilities relating to the position, the qualifications of the executive and the relevant experience the individual brings to the company, strategic goals for which the executive has responsibility, and compensation levels of companies at a comparable stage of development who compete with us for business, scientific and executive talents. No pre-determined weights are given to any one of these factors. The base salaries for the executive officers generally, and the Chief Executive Officer specifically, for 2001 were near the median to high end of the range in comparison to our peer group companies, with most falling in a range around the 60th to 75th percentile for such peer group companies. In establishing base compensation for 2001, the committee included in its evaluation the significant progress made by the company in 2000, including the substantial increase in our revenues as compared to 1999, the establishment of a large number of significant new collaborations and two significant drug discovery alliances, the establishment of a strong capital base from which to execute our business plan and the continuing advancement of our research and development programs.

Incentive Compensation

In addition to base compensation, the committee may award cash bonuses and option grants or other stock-based awards under our 2000 Equity Incentive Plan to chosen executive officers depending on the extent to which certain defined personal and corporate performance goals are achieved. These performance goals are the same as those discussed generally above. In determining bonus and stock option awards for 2001, the committee included in its evaluation the very significant progress made by the company in 2001, including the substantial increase in our revenues as compared to 2000, the establishment of several significant new collaborations and a major new significant drug discovery alliance, our successful acquisition of and integration with Coelacanth Corporation, and the continuing advancement of our research and development programs.

All of our employees, including our executive officers, are eligible to receive long-term stock-based incentive awards under our 2000 Equity Incentive Plan as a means of providing such individuals with a continuing proprietary interest in our success. These grants align the interests of our employees and our stockholders by providing significant incentives for our employees to achieve and maintain high levels of performance. Our 2000 Equity Incentive Plan enhances our ability to attract and retain the services of qualified individuals. Factors considered in determining whether such awards are granted to an executive officer include the executive's position, his or her performance and responsibilities, the amount of stock options currently held by the officer, the vesting schedules of any such options and the executive officer's other compensation. While the committee does not adhere to any firmly established formulas or schedules for the issuance of awards such as options or restricted stock, the committee will generally tailor the terms of any such grant to achieve its goal as a long-term incentive award by providing for a vesting schedule encompassing several years.

In February 2001, the committee approved annual stock option grants to executive officers and other employees who satisfied eligibility requirements, including time of service. In making such grants, the committee considered corporate and individual performance over the year preceding the grant date and information regarding stock option grants made by other companies in the biotechnology industry.

Compensation of the Chief Executive Officer

The annual base salary of Arthur T. Sands, M.D., Ph.D., our President and Chief Executive Officer of the Company, was initially set at \$200,000 pursuant to an employment agreement effective in October 1999, reflecting his salary in effect prior to the signing of that agreement, and was increased by \$50,000 (or approximately 25 percent) to \$250,000 in February 2000 in recognition of the company's progress in 1999. In October 2000, the committee increased Dr. Sands' base salary by \$150,000 (or approximately 60 percent) to \$400,000 to keep pace with salaries being paid to other chief executive officers of similar public companies and in recognition of the company's substantial progress in 2000. In March 2002, the committee increased Dr. Sands' base salary by \$32,000 (or approximately eight percent) to \$432,000 and awarded a bonus to Dr. Sands for 2001 in the amount of \$250,000, in each case on the basis of the company's achievements in 2001.

The committee granted a stock option to Dr. Sands in February 2001, at the same time annual grants were made to other employees. The stock option entitles Dr. Sands to purchase an aggregate of 100,000 shares of common stock at an exercise price of \$14.4375 per share. In making the option grant to Dr. Sands, the committee considered the factors described above with respect to the February 2001 option grants generally.

Section 162(m)

Section 162(m) of the Internal Revenue Code places a \$1 million cap per executive on the deductible compensation that can be paid to certain executives of publicly-traded corporations. Amounts that qualify as "performance based" compensation under Section 162(m)(4)(c) of the Code are exempt from the cap and do not count toward the \$1 million limit. Generally, stock options will qualify as performance based compensation. The committee has discussed and considered and will continue to evaluate the potential impact of Section 162(m) on the company in making compensation determinations, but has not established a set policy with respect to future compensation determinations.

COMPENSATION COMMITTEE

Sam L. Barker, Ph.D.
Patricia M. Cloherty

The foregoing report of the compensation committee shall not be deemed incorporated by reference by any general statement incorporating by reference this proxy statement into any filing under the Securities Act of 1933 or under the Securities Exchange Act of 1934, except to the extent that we specifically incorporate this information by reference, and shall not otherwise be deemed filed under such acts.

PERFORMANCE GRAPH

The following performance graph compares the performance of our common stock to the Nasdaq Composite Index and the Nasdaq Biotechnology Index for the period beginning April 7, 2000, the date of our initial public offering, and ending December 31, 2001. The graph assumes that the value of the investment in our common stock and each index was \$100 at April 7, 2000, and that all dividends were reinvested.

[PERFORMANCE GRAPH]

	APRIL 7, 2000 -----	DECEMBER 31, 2000 -----	DECEMBER 31, 2001 -----
Lexicon Genetics Incorporated	100	76	52
Nasdaq Composite Index	100	56	44
Nasdaq Biotechnology Index	100	96	81

The foregoing stock price performance comparisons shall not be deemed incorporated by reference by any general statement incorporating by reference this proxy statement into any filing under the Securities Act of 1933 or under the Securities Exchange Act of 1934, except to the extent that we specifically incorporate such comparisons by reference, and shall not otherwise be deemed filed under such acts.

PROPOSALS OF STOCKHOLDERS

In order for a stockholder proposal to be considered for inclusion in our proxy statement for next year's annual meeting, we must receive the written proposal at our principal executive offices no later than December 5, 2002. Any such proposal must also comply with Securities and Exchange Commission regulations regarding the inclusion of stockholder proposals in company-sponsored proxy materials. Similarly, in order for any stockholder proposal to be otherwise raised during next year's annual meeting, we must receive written notice of the proposal, containing the information required by our Bylaws, at our principal executive offices no later than December 5, 2002. You may contact the Corporate Secretary at our principal executive offices for a copy of the relevant Bylaw provisions for making stockholder proposals.

FINANCIAL INFORMATION

Our annual report to stockholders, including financial statements, accompanies this proxy statement but does not constitute a part of the proxy solicitation materials. YOU MAY OBTAIN, WITHOUT CHARGE, A COPY OF OUR ANNUAL REPORT ON FORM 10-K, INCLUDING THE FINANCIAL STATEMENTS AND EXHIBITS THERETO, BY WRITTEN REQUEST TO CORPORATE COMMUNICATIONS, LEXICON GENETICS INCORPORATED, 8800 TECHNOLOGY FOREST PLACE, THE WOODLANDS, TEXAS 77381.

By Order of the Board of Directors,

Jeffrey L. Wade
Secretary

April 5, 2002
The Woodlands, Texas

PROXY

LEXICON GENETICS INCORPORATED

ANNUAL MEETING OF STOCKHOLDERS
MAY 8, 2002

THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS OF
LEXICON GENETICS INCORPORATED

The undersigned hereby appoints Arthur T. Sands and Jeffrey L. Wade, and each of them, as proxies and attorneys-in-fact, with the power to act without the other and with power of substitution, to represent the undersigned at the Annual Meeting of Stockholders of Lexicon Genetics Incorporated (the "Company") to be held at The Woodlands Resort and Conference Center, 2301 North Millbend Drive, The Woodlands, Texas, on May 8, 2002, at 1:30 p.m., local time, and any adjournments or postponements thereof, and to vote all of the shares of stock the undersigned would be entitled to vote if personally present at such meeting (1) as provided on the other side of this proxy and (2), in their discretion, on such other business as may properly come before such meeting or any adjournment or postponement thereof.

(CONTINUED AND TO BE MARKED, DATED AND SIGNED ON OTHER SIDE)

o FOLD AND DETACH HERE o

THE BOARD OF DIRECTORS RECOMMENDS A VOTE FOR PROPOSALS 1 AND 2.

Please mark
your votes as
indicated in
this example

THIS PROXY WILL BE VOTED AS DIRECTED OR, IF NO DIRECTION IS INDICATED, WILL BE VOTED:

- o "FOR" THE ELECTION OF THE NOMINEES FOR CLASS II DIRECTOR; AND
- o "FOR" THE PROPOSAL TO RATIFY AND APPROVE THE APPOINTMENT OF ERNST & YOUNG LLP AS THE COMPANY'S INDEPENDENT PUBLIC ACCOUNTANTS FOR THE FISCAL YEAR ENDING DECEMBER 31, 2002.

FOR the nominees
listed below

WITHHOLD AUTHORITY to vote
for the nominees listed below

1. Election of Class II Directors

- | | | |
|-------------------------|-----|-----|
| 01 Sam L. Barker, Ph.D. | [] | [] |
| 02 Gordon A. Cain | [] | [] |
| 03 Patricia M. Cloherty | [] | [] |

2. Ratification and approval of the appointment of Ernst & Young LLP as the Company's independent public accountants for the fiscal year ending December 31, 2002

FOR	AGAINST	ABSTAIN
[]	[]	[]

If you plan to attend the meeting in person, please mark the following box. []

DATED: _____

(Signature)

(Signature if held jointly)

Please date, sign as name appears at the left, and return promptly. If the shares are registered in the names of two or more persons, each should sign. When signing as Corporate Officer, President, Executor, Administrator, Trustee or Guardian, please give full title. Please note any changes in your address alongside the address as it appears in the proxy.

o FOLD AND DETACH HERE o