FORM PTO-1619A
Expires 06/30/99
OMB 0651-0027

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U.S. Department of Commerce

PATENT

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Name (line 1) UNIVERSITY OF GEORGIA RESEA	RCH FOUNDATION, INC.		Month Day Year 11/29/2000			
Name (line 2) Second Party Name (line 1)			Execution Date Month Day Year			
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U.S. Department of Commerce Patent and Trademark Office PATENT

		PATENT
Correspondent Name and Address	Area Code and Telephone Numbe	202-586-2802
Name Brenda K. Banks		
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address (line 3) Washington, D. C. 20585-0162		
Address (line 4)		
Pages Enter the total number of paging including any attachments.	ges of the attached conveyance docu	iment # 5
Application Number(s) or Patent Nur	nber(s)	if additional numbers attached
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Patent Application Number(s)		ent Number(s)
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f this document is being filed together with a new Pate	ent Application, enter the date the patent appli	cation Month Day Year
Patent Cooperation Treaty (PCT)	PCT PCT	PCT
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Number of Properties Enter the total	number of properties involved.	# 1
Fee Amount Fee Amoun	t for Properties Listed (37 CFR 3.41):	\$ 0.00
Method of Payment: Enclose Deposit Account	osed Deposit Account	
(Enter for payment by deposit account or if ad	Iditional fees can be charged to the account.) Deposit Account Number:	#
	Authorization to charge additional fees:	Yes No 🗸
Statement and Signature		
attached copy is a true copy of the	pelief, the foregoing information is true original document. Charges to depo	e and correct and any sit account are authorized, as
<i>indicated herein.</i> Brenda K. Banks	Brindak Banks Signature	6/18/2002
Name of Person Signing	Signature	Date

29/687/47 Nuc Pat. 6,268/98



CONFIRMATORY LICENSE (Nonprofit Organizations or Small Business Firms)

Title: Cellulases and Coding Sequences

UGA Inventor(s): Xin-Liang Li, Lars Ljungdahl, Huizhong Chen Serial No.: 09/687,147 Filing Date (U.S.): 10/12/2000 University of Georgia Research Foundation, Inc.

DOE Contract No.: DE-FG05-93ER20127

DOE Case No.: S-96,132

Patent Rights Clause No.: 17

Continuing Data if any:

Foreign Applications filed in or intended to be filed at Contractor's expense in (countries):

The Contractor, having the right to retain title to Subject Inventions as a result of Public Law 96-517, has reported the above-identified invention as a Subject Invention to DOE with its election to retain title thereto.

Accordingly, this document is confirmatory of the nonexclusive, non-transferable, irrevocable, paid-up license required by the Public Law and this contract in this invention, patent application and any resulting patent as well as any continuation, divisional, reissue, or supplemental thereof, and of all other rights acquired by the Government by the above-identified clause, a copy of which is attached hereto and incorporated by reference herein. The undersigned certified the attached copy to be a true copy of said clause. It is understood and agreed that this license does not preclude the Government from asserting rights under the provisions of said contract or of any other agreement between the Government and the Contractor, or from asserting any other rights of the Government with respect to the above-identified invention.

The Government is hereby granted an irrevocable power to inspect and make copies of the above-identified patent application.

Signed this 29th day of November, 2000.

By: Judy C. Butler

Corporate Secretary and Legal Advisor

University of Georgia Research Foundation, Inc.

Boyd Graduate Studies Research Center

Athens, Georgia 30602-7411

PATENT REEL: 013067 FRAME: 0852

12. RENEWAL AND SUPPLEMENT PLICATIONS.

The signed original and 7 duplicate originals of applications are to be submitted to the DOE Project Officer, as identified in Block 11 of the NFAA. Applications are to be separate documents and are not to be commingled with or bound together as part of any other required submission (technical information forms, financial status reports, etc.). Grantee applications are to be submitted in accordance with the General Terms and Conditions, 10 CFR Part 605, DOE's published Application and Guide, and the following guidance:

- a. <u>DOE F 4650.2</u>, Face Page, and <u>ERF 4620.1</u>, Grant Application Budget Period Summary, are to be submitted with applications. If applications cover multiyear support, the ERF 4620.1 should be submitted for each proposed budget period.
- b. <u>Renewal Application</u> An application for a renewal award must be submitted no later than six months prior to the scheduled expiration of the project period.

13. EXTENSIONS WITHOUT ADDITIONAL FUNDS.

When the grantee extends the expiration date (project period end) in accordance with Article 12 of the General Terms and Conditions, DOE will issue a formal amendment to the grant. This procedure will ensure that the Financial Status Report is submitted for the extended budget period identified in the NFAA, Block 6, and continuity of the project period is maintained in the NFAA, Block 7.

14. KEY PERSONNEL

The project director/co-project directors (principal investigator/co-principal investigators) are identified in Block 8 of the NFAA and are designated as key personnel in addition to the following:	

(If left blank, there are no other key personnel.)

15. FEDERALLY OWNED EQUIPMENT.

a. During the period of DOE support, the grantee shall (a) submit annually in accordance with DOE written instructions an inventory which lists Federally owned equipment acquired with DOE grant funds which is in the custody of the grantee or any subgrantee under the grant and (b) notify DOE as soon as practicable whenever Federally owned equipment is no longer needed for the project.

b. For ϵ red or terminated grants, the grantee s report any Federally owned equipment upon request DOE as part of closeout.

16. CLOSEOUT.

The grantee shall provide (a) technical and finance reports in accordance with DOE F EIA-459A, Federal Assistance Reporting Checklist, (b) a report of nonexempt equipment in accordance with Article 14 of the General Ten and Conditions, (c) a report of Federally owned equipment in accordance with Article 15 of these special terms a conditions, and (d) DOE F 2050.11, Patent Certification.

17. PATENT RIGHTS - SMALL BUSINESS FIRMS (NONPROFIT ORGANIZATIONS (OTHER THAN M&O [DEAR 952.227-71 (APR 1987)].

a. <u>Definitions</u>.

- (1) "Invention" means any invention or discove which is or may be patentable or otherwise protectab under Title 35 of the United States Code (U.S.C.) or ar novel variety of plants which is or may be protected under the Plant Variety Protection Act (7 U.S.C. 2321, et seq.).
- (2) "Subject Invention" means any invention of the grantee conceived or first actually reduced to practic in the performance of work under this grant, provided the in the case of a variety of plants the date of determinatio [as defined in Section 44(d) of the Plant Variety Protectio Act, 7 U.S.C. 2401(d)] must also occur during the period of grant performance.
- (3) "Practical Application" means to manufactur in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is utilized and that it benefits are, to the extent permitted by law or Government regulations, available to the public on reasonable terms.
- (4) "Made" when used in relation to any invention means the conception or first actual reduction to practice c such invention.
- (5) "Small Business Firm" means a small busines concern as defined at Section 2 of Public Law 85-536 (1 U.S.C. 632) and implementing regulations of the Adminis trator of the Small Business Administration. For the purpose of this clause, the size standard for small busines concerns involved in Government procurement and subcortracting, at 13 CFR 121.3-8 and 13 CFR 121.3-12, respectively, will be used.

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- ans a university (6) "Nonprofit Organization" or other institution of higher education or an organization of the type described in Section 501(c)(3) of the Internal Revenue Code of 1954 [26 U.S.C. 501(c)] and exempt from taxation under Section 501(a) of the Internal Revenue Code [26 U.S.C. 501(a)] or any nonprofit scientific or educational organization qualified under a state nonprofit organization statute.
- "Patent Counsel" means the Department of Energy (DOE) Patent Counsel assisting the DOE awarding activity.

b. Allocation of Principal Rights.

(1) The grantee may retain the entire right, title and interest throughout the world to each subject invention subject to the provisions of this clause and 35 U.S.C. 203. With respect to any subject invention in which the grantee retains title, the Federal Government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world.

(Reserved.)

c. Invention Disclosure, Election of Title and Filing of Patent Application By Grantee.

- (1) The grantee will disclose each subject invention to the Patent Counsel within two months after the inventor discloses it in writing to grantee's personnel responsible for patent matters. The disclosure to the Patent Counsel shall be in the form of a written report and shall identify the grant under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding, to the extent known at the time of the disclosure of the nature, purpose, operation, and the physical, chemical, biological or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to the Patent Counsel, the grantee will promptly notify the Patent Counsel of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the grantee.
 - (2) The grantee will elect in writing whether or not to retain title to any such invention by notifying the Patent Counsel within two years of disclosure to the Patent Counsel. However, in any case where publication, on sale or public use has initiated the one year statutory period wherein valid patent protection can still be obtained in the United States, the period for election of title may be shortened by Patent Counsel to a date that is no more than sixty days prior to the end of the statutory period.

- grantee will file its initial patent applica tion on a subject invention to which it elects to retain tit within one year after election of title or, if earlier, prior to the end of any statutory period wherein valid patent protectio can be obtained in the United States after a publication, o sale, or public use. The grantee will file patent application in additional countries or international patent offices withi either ten months of the corresponding initial patent applica tion or six months from the date permission is granted b the Commissioner of Patents and Trademarks to file foreig. patent applications where such filing has been prohibited b a Secrecy Order.
- (4) Requests for extension of the time for disclo sure to the Patent Counsel, election, and filing, under sub paragraphs (1), (2), and (3) may, at the discretion of the Patent Counsel, be granted.

d. Conditions When the Government May Obtain Title

The grantee will convey to the DOE, upon writter request, title to any subject invention:

- (1) If the grantee fails to disclose or elect title to the subject invention within the times specified in c. above, or elects not to retain title; provided that the DOE may only request title within 60 days after learning of the failure of the grantee to disclose or elect within the specified times;
- (2) In those countries in which the grantee fails to file patent applications within the times specified in c. above; provided, however, that if the grantee has filed a patent application in a country after the time specified in c. above prior to its receipt of the written request of the Patent Counsel, the grantee shall continue to retain title in that country; or
- (3) In any country in which the grantee decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in a reexamination or opposition proceeding on, a patent on a subject invention.

e. Minimum Rights to Grantee and Protection of The Grantee's Right to File.

(1) The grantee will retain a nonexclusive, royaltyfree license throughout the world in each subject invention to which the Government obtains title except if the grantee fails to disclose the subject invention within the times specified in c. above. The grantee's license extends to its domestic subsidiaries and affiliates, if any, within the corporate structure of which the grantee is a part and includes the right to grant sublicenses of the same scope to the extent the grantee was legally obligated to do so at the time the grant was awarded. The license is transferable only with the approval of DOE except when transferred to the successor of the part of the grantee's business to which the invention pertains.

- (2) The grantee's domestic anse may be revoked or modified by DOE to the excent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions at 37 CFR 404 and 10 CFR 781. This license will not be revoked in that field of use or the geographical areas in which the grantee has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The Ilcense in any foreign country may be revoked or modified at the discretion of DOE to the extent the grantee, its licensees, or its domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.
- (3) Before revocation or modification of the license, DOE will furnish the grantee a written notice of its intention to revoke or modify the license, and the grantee will be allowed thirty days (or such other time as may be authorized by DOE for good cause shown by the grantee) after the notice to show cause why the license should not be revoked or modified. The grantee has the right to appeal, in accordance with 37 CFR 404 and 10 CFR Part 781, any decision concerning the revocation or modification of its license.
- f. Grantee Action to Protect The Government's Interest.
- (1) The grantee agrees to execute or to have executed and promptly deliver to the Patent Counsel all instruments necessary to:
- (a) Establish or confirm the rights the Government has throughout the world in those subject inventions to which the grantee elects to retain title, and
- (b) Convey title to DOE when requested under d. above and to enable the Government to obtain patent protection throughout the world in that subject invention.
- (2) The grantee agrees to require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the grantee each subject invention made under this grant in order that the grantee can comply with the disclosure provisions of c. above and to execute all papers necessary to file patent applications on subject inventions and to establish the Government's rights in the subject inventions. The disclosure format should require, as a minimum, the information required by c(1) above. The grantee shall instruct such employees through the employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to United States or foreign statutory bars.

- (3) grantee will notify the Patent Counse any decision not to continue prosecution of a patent ap cation, pay maintenance fees, or defend in a reexaminat or opposition proceeding on a patent, in any country, less than thirty days before the expiration of the resporperiod required by the relevant patent office.
- (4) The grantee agrees to include, within t specification of any United States patent applications a any patent issuing thereon covering a subject invention, t following statement "This invention was made with Government support under (identify the grant) awarded by t Department of Energy. The Government has certain right in this invention."
 - (5) The grantee agrees to:
- (a) Upon request, provide a report prior the closeout of the grant listing all subject inventions or staing that there were none;
- (b) Provide, upon request, a copy of the patent application, filing date, serial number and title, patenumber and issue date for any subject invention in arcountry in which the grantee has applied for a patent; ar
- (c) Provide upon request, but not more that annually, listings of all subject inventions which were disclosed to DOE during the applicable reporting period.

g. Subgrants.

- (1) The grantee will include this clause, suitable modified to identify the parties, in all subgrants, regardles of tier, for experimental, developmental or research work to be performed by a small business firm or a domestic nor profit organization. The subgrantee will retain all rights provided for the grantee in this clause, and the grantee will not as part of the consideration for awarding the subgrant, obtain rights in the subgrantee's subject inventions.
- (2) The grantee will include in all other subgrants regardless of tier, for experimental, developmental, demon stration or research work the patent rights clause of 41 CFF 9-9.107-5(a) or 9-9.107-6 as appropriate, modified to identify the parties.

h. Reporting on Utilization of Subject Inventions.

The grantee agrees to submit on request periodic reports no more frequently than annually on the utilizatior of a subject invention or on efforts at obtaining such utilization that are being made by the grantee or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the grantee, and such other data and information as DOE may reasonably specify. The grantee also agrees to provide additional reports as may be requested by DOE in connection with any march-in proceeding undertaken by DOE in accordance with para-

graph j. of this clause. As required by U.S.C. 202(c)(5), DOE agrees it will not disclose such into nation to persons outside the Government without permission of the grantee.

Preference for United States Industry.

Notwithstanding any other provision of this clause, the grantee agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject inventions in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by DOE upon a showing by the grantee or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

j. March-in-rights.

The grantee agrees that with respect to any subject invention in which it has acquired title, DOE has the right in accordance with the procedures in 37 CFR 401.6 and any supplemental regulations of DOE to require the grantee, an assignee or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the grantee, assignee, or exclusive licensee refuses such a request, DOE has the right to grant such a license itself if DOE determines that:

- (1) Such action is necessary because the grantee or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;
- (2) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the grantee, assignee, or their licensees;
- (3) Such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the grantee, assignee, or licensees; or
- (4) Such action is necessary because the agreement required by paragraph i. of this clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of such agreement.
- k. <u>Special Provisions for Grants with Nonprofit</u> Organizations.

If the grantee is a nonprofit organization, it agrees that:

- (1) hts to a subject invention in the Unit States may not be assigned without the approval of Do except where such assignment is made to an organizat which has as one of its primary functions the managem of inventions, provided that such assignee will be subject the same provisions as the grantee;
- (2) The grantee will share royalties collected a subject invention with the inventor, including Federal e ployees co-inventors (when DOE deems it appropria when the subject invention is assigned in accordance w 35 U.S.C. 202(e) and 37 CFR 401.10;
- (3) The balance of any royalties or income ear ed by the grant with respect to subject inventions, affi payment of expenses (including payments to inventors) indental to the administration of subject inventions, will to utilized for the support of scientific research or education
- It will make efforts that are reasonable und the circumstances to attract licensees of subject inventior that are small business firms and that it will give a prefe ence to a small business firm when licensing a subject in vention if the grantee determines that the small busines firm has a plan or proposal for marketing the inventic which, if executed, is equally as likely to bring the inventio to practical application as any plans or proposals from ar plicants that are not small business firms; provided that th grantee is also satisfied that the small business firm has th capability and resources to carry out its plan or proposa The decision whether to give a preference in any specifi case will be at the discretion of the grantee. However, the grantee agrees that the Secretary of Commerce may review the grantee's licensing program and decisions regarding small business applicants, and the grantee will negotiate changes to its licensing policies, procedures, or practice: with the Secretary of Commerce when the Secretary o Commerce's review discloses that the grantee could take reasonable steps to implement more effectively the require ments of this paragraph k(4).

I. Communications.

The DOE central point of contact for communications or matters relating to this clause is the Patent Counsel.

18. RIGHTS IN TECHNICAL DATA (SHORT FORM) [10 CFR PART 600.33].

This provision shall apply to all grants other than those having as a purpose the conduct of a conference, symposium, or training.

a. Definitions.

The definitions of terms set forth in DEAR 927.401 apply to the extent these terms are used herein.

FAP/STC (Dec 1992)