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Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
- of inventorship (Rule 4.17(iv))

Published:

- with international search report (Art. 21(3))
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29 December 2010



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(54) Title: METHOD OF PRODUCING A LIPOLYTIC ENZYME

(57) Abstract: The present invention relates to a method for the production of a lipolytic enzyme in *Trichoderma reesei* and the lipolytic enzyme obtainable therefrom. In addition, the present invention relates to the use of *Trichoderma* to express a lipolytic enzyme.

# INTERNATIONAL SEARCH REPORT

International application No PCT/IB2010/051802
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<b>A. CLASSIFICATION OF SUBJECT MATTER</b> INV. C12N9/20      A23K1/165      A23L1/305      C12N15/80      C12R1/885 ADD.				
According to International Patent Classification (IPC) or to both national classification and IPC				
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) A23K C12N A23L C12R				
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched				
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, BIOSIS, FSTA, WPI Data, Sequence Search				
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X	WO 98/45453 A1 (DANISCO [DK]; POULSEN CHARLOTTE HORMANS [DK]; SOEE JOERN BORCH [DK];) 15 October 1998 (1998-10-15) cited in the application	1-11,14		
Y	page 5, line 3 - page 9, line 31 page 10, line 26 - page 13, line 12; claims 1-27; sequences 1- 9	1-32		
Y	WO 2008/150376 A1 (DANISCO US INC GENENCOR DIV [US]; CERVIN MARGUERITE A [US]; KIM STEVEN) 11 December 2008 (2008-12-11) paragraphs [0060], [0 67]; claims; examples	1-32		
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<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.</td> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> See patent family annex.</td> </tr> </table>			<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/> See patent family annex.
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/> See patent family annex.			
* Special categories of cited documents :				
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed		"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family		
Date of the actual completion of the international search	Date of mailing of the international search report			
18 October 2010	10/11/2010			
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  Baminger, Ursula			

## INTERNATIONAL SEARCH REPORT

International application No  
PCT/IB2010/051802

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2006/077258 A1 (DSM IP ASSETS BV [NL]; ROUBOS JOHANNES ANDRIES [NL]; DONKERS SERGE PET) 27 July 2006 (2006-07-27) paragraphs [0033], [ 165], [ 171], [ 175]; claim 16; examples 1-2; sequences 1,2,8,11-14,35	1-32
Y	US 4 797 361 A (MONTENECOURT BLAND S [US]) 10 January 1989 (1989-01-10) column 3, line 14 - line 44; claims column 5, lines 1-9	1-32
Y	BRADNER J RON ET AL: "The application of PCR for the isolation of a lipase gene from the genomic DNA of an Antarctic microfungus." CURRENT GENETICS, vol. 44, no. 4, December 2003 (2003-12), pages 224-230, XP002602992 ISSN: 0172-8083 cited in the application the whole document	1-32
Y	WO 2004/101759 A2 (GENENCOR INT [US]; JONES BRIAN EDWARD [NL]; GRANT WILLIAM D [GB]; HEAP) 25 November 2004 (2004-11-25) page 7, line 3, paragraphs 81-87, 111, 117 - line 5; sequence 4	1-32
Y,P	US 2009/269805 A1 (JONES BRIAN E [US] ET AL JONES BRIAN E [US] ET AL) 29 October 2009 (2009-10-29) paragraphs [0007] - [0015], [ 0 35] - [0044], [ 0 89] - [0095], [ 101] - [0104], [0116] - [0119], [ 128 ] - [ 131]	1-32

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 15-29, 32(all partially)

The subject-matter of claims 15-29 and 32 was searched as far as it is supported by the description and remaining claims of the application as filed.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.2), should the problems which led to the Article 17(2) declaration be overcome.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IB2010/051802

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: 15-29, 32(all partially)  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-11, 14

The provision of a lipase defined by the sequences as claimed and its expression in a *Trichoderma reesei* cell as well as its use in a foodstuff.

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2. claims: 12, 13

An expression vector comprising a cellobiohydrolase promoter and the sequences of the invention. The host may be any organism.

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3. claims: 30, 31

A method of producing a lipolytic enzyme of any type using a transformed or transfected *Trichoderma reesei* cell and certain fermentation and downstream conditions.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2010/051802

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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