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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: DETERGENT COMPOSITIONS

Alignment of lipase sequences

<pre> ID NO 1: SSQDQVYRASEKTKANFFPFLASAA ID NO 2: STGGKALPQGLINSLTFFVLSLGA ID NO 3: SAEKSNFVAGKIDKATLAFKLEF ID NO 4: TNGALASFO GSESDVFFSL VEDALISQA ID NO 5: TCEKFAKSNFVAGKIDKATLAFKLEF ID NO 6: AVGVTFDFNFFPFLASAA ID NO 7: TTYLHLSKFFFLASAA ID NO 8: DLPDQKIDFFPFLASAA ID NO 9: PYSSELDQFFPFLASAA ID NO 10: SPSSTFVLDLQFLASAA ID NO 11: SPSSTFVLDLQFLASAA ID NO 12: SPSSTFVLDLQFLASAA ID NO 13: SPSSTFVLDLQFLASAA ID NO 14: SPSSTFVLDLQFLASAA ID NO 15: SPSSTFVLDLQFLASAA ID NO 16: SPSSTFVLDLQFLASAA ID NO 17: SPSSTFVLDLQFLASAA ID NO 18: SPSSTFVLDLQFLASAA ID NO 19: SPSSTFVLDLQFLASAA ID NO 20: SPSSTFVLDLQFLASAA ID NO 21: SPSSTFVLDLQFLASAA ID NO 22: SPSSTFVLDLQFLASAA ID NO 23: SPSSTFVLDLQFLASAA ID NO 24: SPSSTFVLDLQFLASAA ID NO 25: SPSSTFVLDLQFLASAA ID NO 26: SPSSTFVLDLQFLASAA ID NO 27: SPSSTFVLDLQFLASAA ID NO 28: SPSSTFVLDLQFLASAA ID NO 29: SPSSTFVLDLQFLASAA ID NO 30: SPSSTFVLDLQFLASAA ID NO 31: SPSSTFVLDLQFLASAA ID NO 32: SPSSTFVLDLQFLASAA ID NO 33: SPSSTFVLDLQFLASAA ID NO 34: SPSSTFVLDLQFLASAA ID NO 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(57) Abstract: The present invention relates to detergent compositions comprising a detergent ingredient and a lipase variant with reduced potential for odor generation obtained by introducing mutations in one or more regions identified in a parent lipase.

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GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *with sequence listing part of description published separately in electronic form and available upon request from the International Bureau*

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
29 November 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/001802

A. CLASSIFICATION OF SUBJECT MATTER INV. C12N9/20 C11D3/386		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) C12N C11D		
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, Sequence Search, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/062973 A (NOVOZYMES AS [DK]; MUNK SIGNE [DK]; VIND JESPER [DK]; BORCH KIM [DK];) 15 August 2002 (2002-08-15) cited in the application pages 12-13 -----	1-3,23, 26-36
X	WO 00/60063 A (NOVONORDISK AS [DK]; VIND JESPER [DK]; SVENDSEN ALLAN [DK]; PATKAR SHA) 12 October 2000 (2000-10-12) cited in the application pages 4-5 page 10 -----	1-3,23, 26-36
X	US 2005/059130 A1 (BOJSEN KIRSTEN [DK] ET AL) 17 March 2005 (2005-03-17) page 19, line 9, paragraph 128; claim 5; example 19 -----	1-3,23, 26-36
-/--		
<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	
24 July 2007	27/09/2007	
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Herrmann, Klaus	

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/001802

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 94/25577 A (NOVONORDISK AS [DK]; SVENDSEN ALLAN [DK]; PATKAR SHAMKANT ANANT [DK];) 10 November 1994 (1994-11-10) claims 1-6 -----	1-3, 23, 26-36

INTERNATIONAL SEARCH REPORT

International application No.

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Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:

a. type of material

a sequence listing

table(s) related to the sequence listing

b. format of material

on paper

in electronic form

c. time of filing/furnishing

contained in the international application as filed

filed together with the international application in electronic form

furnished subsequently to this Authority for the purpose of search

2. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

3. Additional comments:

INTERNATIONAL SEARCH REPORT

international application No.
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Box 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.:
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:

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 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 fee, this Authority did not invite payment of any additional fee.
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.:

claims 2, 3 and partially claims 1, 23 and 26-36

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- 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:

Invention 1: claims 2, 3 and partially claims 1, 23 and 26-36

A composition comprising a detergent ingredient and a variant of a lipase, said variant, when compared to said parent, comprising a total of at least three substitutions, one of the substitutions being at a position corresponding to position 231 or 233, and subject-matter relating thereto.

2. claims: 4, 5 and partially claims 1 and 37

Idem as subject 1 but limited to lipases comprising a substitution at position 4.

Invention 3: claims 6, 7 and partially claim 1

Idem as subject 1 but limited to lipases comprising a substitution at position 227.

Inventions 4-7: claims 1, 8 and 9 (all partially)

Idem as subject 1 but limited to lipases comprising a substitution at position 202, 211, 255 or 256, i.e. invention 4 concerns position 202, invention 5 is related to position 211 etc.

Invention 8: claims 10, 11 and partially claim 1

Idem as subject 1 but limited to lipases comprising a substitution at position 210.

Inventions 9-11: claims 1, 12-15 and 37 (all partially)

Idem as subject 1 but limited to lipases comprising a substitution at position 83, 86 or 90.

Inventions 12-14: claims 1, 16-19 and 37 (all partially)

Idem as subject 1 but limited to lipases comprising a substitution at position 27, 58 or 60.

Inventions 15-18 : claims 1, 20, 21, 22 and 37 (all partially)

Idem as subject 1 but limited to lipases comprising a substitution at position 81, 147, 150 or 249.

Inventions 19-28: claims 1 and 24 (all partially)

Idem as subject 1 but limited to lipases comprising one of the groups of substitutions as defined in claim 24.

Inventions 29 and 30: claims 1 and 25 (all partially)

Idem as subject 1 but limited to lipases comprising one of the groups of substitutions as defined in claim 25.

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