

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 14405-WO-PCT	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/EP2017/080811	International filing date (<i>day/month/year</i>) 29 November 2017 (29-11-2017)	(Earliest) Priority Date (<i>day/month/year</i>) 30 November 2016 (30-11-2016)
Applicant NOVOZYMES A/S		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 5 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of:

- the international application in the language in which it was filed
 a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. **Certain claims were found unsearchable** (See Box No. II)

3. **Unity of invention is lacking** (see Box No III)

4. With regard to the **title**,

- the text is approved as submitted by the applicant
 the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- the text is approved as submitted by the applicant
 the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. _____
 as suggested by the applicant
 as selected by this Authority, because the applicant failed to suggest a figure
 as selected by this Authority, because this figure better characterizes the invention
- b. none of the figures is to be published with the abstract

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

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of a sequence listing:
 - a. forming part of the international application as filed:
 - in the form of an Annex C/ST.25 text file.
 - on paper or in the form of an image file.
 - b. furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. furnished subsequent to the international filing date for the purposes of international search only:
 - in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
2. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

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A. CLASSIFICATION OF SUBJECT MATTER
INV. A21D2/26
ADD.

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)
A21D

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 practicable, search terms used)
EPO-Internal, FSTA, 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	US 2006/281080 A1 (ALBANG RICHARD [DE] ET AL) 14 December 2006 (2006-12-14) paragraphs [0001] - [0003], [0007], [0008], [0009], [0018] - [0037], [0186] - [0215] claims; examples; sequences	1-15
X	US 2010/086640 A1 (BRUNSTEDT JANNE [DK] ET AL) 8 April 2010 (2010-04-08) paragraphs [0004] - [0008], [0022] - [0085], [0138] - [0172] claims; examples	1-15
X	US 2015/017281 A1 (BORCH KIM [DK] ET AL) 15 January 2015 (2015-01-15) paragraphs [0003] - [0009], [0056] - [0121] claims; examples	1-15
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Further documents are listed in the continuation of Box C.

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 application or patent 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 25 January 2018	Date of mailing of the international search report 06/02/2018
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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 Hartlieb, Ariane
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International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2013/323359 A1 (BUDOLFSEN GITTE [DK] ET AL) 5 December 2013 (2013-12-05) paragraphs [0005] - [0061] claims; examples -----	1-15
X	WO 2016/005315 A1 (NOVOZYMES AS [DK]) 14 January 2016 (2016-01-14) page 1, lines 9-17 page 1, line 29 - page 3, line 10 page 6, line 24 - page 17, line 2 claims; examples -----	1-15

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Information on patent family members

International application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006281080	A1	14-12-2006	
		AR 042417 A1	22-06-2005
		AU 2003270088 A1	11-03-2004
		CA 2495198 A1	04-03-2004
		CN 1675355 A	28-09-2005
		DK 2338986 T3	19-01-2015
		EA 200500391 A1	25-08-2005
		EA 200601823 A1	27-02-2007
		EP 1530630 A2	18-05-2005
		EP 2338986 A1	29-06-2011
		ES 2527924 T3	02-02-2015
		JP 2005535352 A	24-11-2005
		MX PA05001978 A	28-04-2005
		PL 214792 B1	30-09-2013
		US 2006281080 A1	14-12-2006
		US 2009232936 A1	17-09-2009
		WO 2004018660 A2	04-03-2004
US 2010086640	A1	08-04-2010	
		AT 482621 T	15-10-2010
		AU 2005221890 A1	22-09-2005
		BR PI0508656 A	21-08-2007
		CA 2559164 A1	22-09-2005
		CN 1973034 A	30-05-2007
		DK 1722636 T3	29-11-2010
		EP 1722636 A2	22-11-2006
		EP 2266405 A2	29-12-2010
		ES 2351426 T3	04-02-2011
		JP 4751877 B2	17-08-2011
		JP 2007528732 A	18-10-2007
		KR 20060118577 A	23-11-2006
		PT 1722636 E	29-11-2010
		SI 1722636 T1	31-01-2011
		US 2008038404 A1	14-02-2008
		US 2010086640 A1	08-04-2010
		WO 2005087918 A2	22-09-2005
		ZA 200606745 B	27-02-2008
US 2015017281	A1	15-01-2015	
		DK 2825051 T3	30-05-2016
		EP 2825051 A1	21-01-2015
		US 2015017281 A1	15-01-2015
		WO 2013135822 A1	19-09-2013
US 2013323359	A1	05-12-2013	
		AU 7235901 A	21-01-2002
		EP 1301080 A1	16-04-2003
		US 2005118697 A1	02-06-2005
		US 2007207247 A1	06-09-2007
		US 2011003031 A1	06-01-2011
		US 2012082756 A1	05-04-2012
		US 2013323359 A1	05-12-2013
		WO 0203805 A1	17-01-2002
WO 2016005315	A1	14-01-2016	
		AU 2015286897 A1	05-01-2017
		CA 2952147 A1	14-01-2016
		EP 3166411 A1	17-05-2017
		US 2017188592 A1	06-07-2017
		WO 2016005315 A1	14-01-2016