

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year)	29.06.2017
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Applicant's or agent's file reference	FOR FURTHER ACTION See paragraph 2 below
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International application No. PCT/RU2017/000089	International filing date (day/month/year) 21.02.2017	Priority date (day/month/year) 24.02.2016
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International Patent Classification (IPC) or both national classification and IPC
A23L 33/00 (2016.01); A23L 7/104 (2016.01); C12N 1/16 (2006.01)

Applicant
OBSHESTVO S OGRANICHENNOY OTVETSTVENNOSTYU "TWIN TECHNOLOGY COMPANY"

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/RU	Date of completion of this opinion	Authorized officer
Facsimile No.		Telephone No.

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Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established 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)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established 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).
4. 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.
5. Additional comments:

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement			
Novelty (N)	Claims	<u>1-2</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	<u>1-2</u>	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	<u>1-2</u>	YES
	Claims	_____	NO

2. Citations and explanations:

D1: RU 2453150 C2

D1 is the prior art closest to the invention according to claim 1.

D1 discloses a method for obtaining a fermented product from a cereal crop, which comprises dietary fibre, which method involves grinding whole grain, enzymatically hydrolysing the ground grain in an aqueous medium using heat-stable alpha amylase at a temperature of 95°C and then using glucoamylase, the resultant ferment lysate is divided into a water soluble fraction and a water insoluble fraction, wherein the yeast *Saccharomyces cerevisiae* which is grown on a nutrient medium under aeration conditions is divided into the culture liquid and the biomass of the yeast.

The invention according to claim 1 differs from D1 in that the yeast *Saccharomyces cerevisiae* is grown on an obtained ferment lysate until the sugars in the medium are exhausted, and then the yeast suspension is divided

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

by centrifuging into a light fraction, i.e. culture fluid, a medium fraction, i.e. yeast biomass, and a heavy fraction, i.e. ground grain residue, and then the yeast biomass is autolyzed for a period of 4-24 hours, the resulting autolysate is mixed with the ground grain residue and dried at a temperature of 100-105°C to a residual moisture content of 8-9%, or the resulting autolysate is separated into a water soluble fraction and a water insoluble fraction, which is removed, and the water soluble fraction of the autolysate is mixed with the ground grain residue and dried at a temperature of 100-105°C to a residual moisture content of 8-9%.

Therefore, the invention according to claims 1-2 satisfies the criterion of novelty.

The stated distinguishing features defined in claim 1 are not known from the prior art and are not obvious to a person skilled in the art and provide for an improvement in the nutritional properties of a fermented product from cereal crops, which comprises dietary fibres of plant origin that is mainly composed of easily digestible amino acids and peptides.

Therefore, the invention according to claims 1-2 satisfies the criterion of inventive step.

The invention according to claims 1-2 satisfies the criterion of industrial applicability.