

15-5-2014

EP2135606

Datum  
Date of Form 1507  
Date

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Sheet 1  
Feuille

Anmelde-Nr:  
Application No: 08 121 882.2  
Demande n°:

The examination is being carried out on the **following application documents**

**Description, Pages**

1-15 filed with entry into the regional phase before the EPO

**Claims, Numbers**

1-10 received on 01-12-2009 with letter of 01-12-2009

**Drawings, Sheets**

1/3-3/3 filed with entry into the regional phase before the EPO

Reference is made to the following documents; the numbering will be adhered to in the rest of the procedure.

- D1 NISHIBE S ET AL: "Phenolic Compounds from Stem Bark of Acanthopanax senticosus and Their Pharmacological Effect in Chronic Swimming Stressed Rats", CHEMICAL AND PHARMACEUTICAL BULLETIN, PHARMACEUTICAL SOCIETY OF JAPAN, JP, vol. 38, no. 6, 1 January 1990 (1990-01-01), pages 1763-1765, XP003000009, ISSN: 0009-2363
- D2 JP 2007 008878 A (SATO PHARMA) 18 January 2007 (2007-01-18)
- D3 **SODHALA: "Tial Taila Prayoga", TKDL, P.V. SHARMA, ORIENTAL INSTITUTE, BARODA, 1 January 1978 (1978-01-01), XP002598278.**
- D4 KEENOY BEGONA MANUEL Y ET AL: "Antioxidant status and lipoprotein peroxidation in chronic fatigue syndrome", LIFE SCIENCES, PERGAMON PRESS, OXFORD, GB, vol. 68, no. 17, 16 March 2001 (2001-03-16), pages 2037-2049, XP002377236, ISSN: 0024-3205

- D5 AMANPREET SINGH ET AL: "Effect of Natural and Synthetic Antioxidants in a Mouse Model of Chronic Fatigue Syndrome",  
JOURNAL OF MEDICINAL FOOD, MARY ANN LIEBERT, LARCHMONT, NY, US,  
vol. 5, no. 4, 1 December 2002 (2002-12-01), pages 211-220,  
XP002654505,  
ISSN: 1096-620X, DOI: 10.1089/109662002763003366  
[retrieved on 2004-07-07]
- D6 LOGAN A C ET AL: "Chronic fatigue syndrome: oxidative stress and dietary modifications",  
ALTERNATIVE MEDICINE REVIEW, THORNE RESEARCH INC., SANDPOINT, US,  
vol. 6, no. 5, 1 October 2001 (2001-10-01), pages 450-459,  
XP009150507,  
ISSN: 1089-5159
- D7 HAN BYUNG-HOON ET AL: "Studies on the Antioxidant Components of Korean Ginseng (IV) - Antifatigue Active Components -",  
YAKHAKHOE-CHI / TAEHAN YAKHAKHOE, KOREAN INTELLECTUAL PROPERTY OFFICE,  
vol. 28, no. 4, 30 August 1984 (1984-08-30), pages 231-235,  
XP053002117,  
ISSN: 0377-9556
- D8 IKEDA T ET AL: "Protective effect of sesamin administration on exercise-induced lipid peroxidation.",  
INTERNATIONAL JOURNAL OF SPORTS MEDICINE,  
vol. 24, no. 7, October 2003 (2003-10), pages 530-534,  
ISSN: 0172-4622
- D9 KISO Y ET AL: "Antioxidative effects of sesamin during high intensity exercise.",  
MEDICINE AND SCIENCE IN SPORTS AND EXERCISE,  
vol. 35, no. 5 Supplement, May 2003 (2003-05), page S269,  
& 50TH ANNUAL MEETING OF THE AMERICAN COLLEGE OF SPORTS MEDICINE; SAN FRANCISCO, CA, USA; MAY 28-31, 2003  
ISSN: 0195-9131

- D10 DATABASE WPI  
Week 200414  
Thomson Scientific, London, GB;  
AN 2004-135836  
& JP H10 218785 A (TAKEMURA M) 18 August 1998 (1998-08-18)
- D11 DATABASE WPI  
Week 200326  
Thomson Scientific, London, GB;  
AN 2003-264397  
& KR 2002 0090077 A (JEONG S Y) 30 November 2002 (2002-11-30)

The following documents have been cited in the international search report; the numbering will be adhered to in the rest of the procedure.

- D12 JP 06 227977 A
- D13 JP 05 051388 A
- D14 FUKUDA Y. ET AL.: "Goma no Shokuhin Kagaku",  
NIHON SHOKUKIN KOGYO GAKKAISHI,  
vol. 35, no. 8, August 1988 (1988-08), pages 552-562, XP003021981,
- D15 HIRAMOTO K. ET AL.: "Sanka Stress to Hiro",  
IGAKU NO AYUMI,  
vol. 204, no. 5, 1 February 2003 (2003-02-01), pages 309-313,
- D16 KATAOKA Y.: "Sanka Stress to No no Hiro",  
IGAKU NO AYUMI,  
vol. 204, no. 5, 1 February 2003 (2003-02-01), pages 314-318,
- D17 SINGH A. ET AL.: "Role of antioxidants in chronic fatigue syndrome in mice",  
INDIAN JOURNAL OF EXPERIMENTAL BIOLOGY,  
vol. 40, no. 11, November 2002 (2002-11), pages 1240-1244,  
XP009033685,
- D18 WO 2007/119378 A1

1. The amended claim 1 filed with the letter dated 01.12.2009 introduces subject-matter which extends beyond the content of the application as filed, contrary to Article 123(2) EPC. No basis can be found in the original application for a non-therapeutic treatment of fatigue. Furthermore, it is not apparent whether a non-therapeutic application can be separated from a therapeutic application at all. Fatigue is a disorder of the normal body function and as such its treatment will always imply a (inherent) therapeutical aspect. This seems also to be recognized by the applicant, since in the introductory sentence of the description dealing with the background art fatigue is generally stated to be a "disease".

2. Document D18 published on 25.10.2007 claims the priority date of 15.03.2006. It has been supplied to the European Patent Office in one of its official languages according to Article 153(3) and (4) EPC and the filing fee provided for in Rule 159(1) (c) EPC or Article 39(1) PCT has been paid. The requirements of Rule 165 EPC are thus fulfilled. Its content as filed is therefore considered to be comprised in the state of the art relevant to the question of novelty, pursuant to Article 54(3) EPC. This earlier application discloses the synergistic use of sesamin and riboflavin for treating and/or preventing fatigue. Reference is particularly made to paragraphs [0007] and [0015] and Examples 3 and 4 of D18. According to D18 the sesamin is used essentially to potentiate the anti-fatigue action of riboflavin. This particular use nevertheless anticipates the generic use for treating and/or preventing fatigue as claimed by the present application. D18 furthermore discloses the treatment of chronic fatigue syndrome (cf. paragraphs [0020]-[0022]). Thus, D18 is prejudicial to the novelty (Article 54(3) EPC) of the subject-matter of the whole claims 1-11 of the present application.

3. The present application furthermore does not meet the requirements of Article 52 (1) EPC because the subject-matter of independent claim 9 is not new within the meaning of Article 54(1) and (2) EPC. The prior art documents D3, D10 and D11 disclose fatigue relieving pharmaceutical compositions that comprise sesame and thus inherently comprise sesamin, which is naturally contained in sesame. Reference is made to the relevant passages cited in the Search Report for the respective documents.

4. The present application does not meet the requirements of Article 52(1) EPC because the subject-matter of independent claims 1, 3 and 6 does not involve an inventive step within the meaning of Article 56 EPC in the light of D1, D2 or D3 taken

alone or in the light of any of D4-D7 and D12-D14 taken in combination with any of D8, D9 and D15-D17. Reference is made to the relevant passages cited in the Search Report for the respective documents.

4.1 D1 and D2 disclose the use of the glycone form of syringaresinol as an anti-fatigue agent. The problem to be solved starting from D1 or D2 is regarded as providing a further compound having anti-fatigue properties. The use of the aglycone form would readily be contemplated by a skilled person looking for alternatives with a relatively high expectation of success, since glycones and corresponding aglycones usually share bioactivity, the aglycone form being often more active than the glycone form (e.g. antioxidant activity of rutin (=glycone) and quercetin (=aglycone)).

4.2 D3 teaches that sesame has a fatigue relieving effect. The problem to be solved starting from D3 is regarded as providing a further compound having anti-fatigue properties. A skilled person would have routinely tested the known bioactive components that have been described for sesame in order to find an anti-fatigue agent without the need of inventive skills and with high expectation of success. One such known compound is sesamin.

4.3 D4-D7 and D12-D14 teach the beneficial action of anti-oxidants in the treatment and prevention of fatigue. None of these document however discloses a compound falling under the formula (I) defined in the present claims. Starting from D4-D7 and D12-D14 the problem to be solved is regarded as providing further anti-oxidants susceptible to prevent and/or treat fatigue. The choice of a compounds falling under the formula (I) does not involve an inventive step as it is obvious in the general knowledge regarding anti-oxidants. When looking for promising alternative anti-oxidants a skilled person would have consulted D8 and D9, since these documents specifically deal with antioxidants having a protective effect against metabolic stress due to strenuous physical exercise - hence closely related to fatigue. D8 and D9 teach that sesamin has strong in vivo anti-oxidant properties as evidenced by reduced plasma levels of peroxy lipid. The anti-oxidant properties of sesamin and derivatives thereof is furthermore generally known, including their inhibiting effect on peroxy lipid generation, as illustrated by D15-D17.

5. The dependent claims 2, 4, 5, 7, 8, 10 and 11 do not appear to contain any additional features which, in combination with features of any claim to which they refer, would render the claimed subject-matter novel and/or inventive (Articles 54 and 56

EPC). The specific embodiments are directly anticipated or at least rendered obvious by the state of the art disclosed in D1-D18. Both chronic fatigue syndrome and sesamin are specifically mentioned in the various of the cited documents or at least suggested by said documents. Reference is made to the relevant passages cited in the Search Report.

6. Should the applicant regard some particular matter as patentable, an independent claim should be filed taking account of Rule 43(1) EPC. The applicant should also indicate how the subject-matter of the new claim differs from the state of the art and the significance thereof in terms of inventive step. When evaluating an inventive step it is considered important to know in what respect any new technical feature contributes to solve a technical problem and why the skilled person would not arrive at the claimed subject-matter when considering the state of the art and general knowledge. It should be noted that any argument given with respect to novelty and inventive step must be reflected by technical features in the wording of the independent claim(s). If a specific embodiment provides unexpected advantages or surprising effects, the applicant should give convincing arguments and should furnish evidence, most preferably by filing test results as a comparison to the cited prior art.

7. To meet the requirements of Rule 42(1)(b) EPC, the documents D1-D18 should be identified in the description and the relevant background art disclosed therein should be briefly discussed.

8. When filing amended claims the applicant should at the same time bring the description into conformity with the amended claims. Care should be taken during revision, especially of the introductory portion and any statements of problem or advantage, not to add subject-matter which extends beyond the content of the application as originally filed (Article 123(2) EPC).

9. In order to facilitate the examination of the conformity of the amended application with the requirements of Article 123(2) EPC, the applicant is requested to clearly identify the amendments carried out, irrespective of whether they concern amendments by addition, replacement or deletion, and to indicate the passages of the application as filed on which these amendments are based. If the applicant regards it as appropriate these indications could be submitted in handwritten form on a copy of the relevant parts of the application as filed.

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	NISHIBE S ET AL: "Phenolic Compounds from Stem Bark of Acanthopanax senticosus and Their Pharmacological Effect in Chronic Swimming Stressed Rats", CHEMICAL AND PHARMACEUTICAL BULLETIN, PHARMACEUTICAL SOCIETY OF JAPAN, JP, vol. 38, no. 6, 1 January 1990 (1990-01-01), pages 1763-1765, XP003000009, ISSN: 0009-2363 * figure 1b; compound 2 *	1-11	INV. A61K31/36 A23K1/16 A23L1/30 A61K36/18 A61P3/02 C07D493/04
X	JP 2007 008878 A (SATO PHARMA) 18 January 2007 (2007-01-18) * Formula II; paragraph [0012] - paragraph [0013] * * paragraph [0016] - paragraph [0023]; figures 1-3 *	1-11	
X	SODHALA: "Tial Taila Prayoga", TKDL, P.V. SHARMA, ORIENTAL INSTITUTE, BARODA, 1 January 1978 (1978-01-01), XP002598278, * the whole document *	1-11	TECHNICAL FIELDS SEARCHED (IPC)  A23L A61K
Y	KEENOY BEGONA MANUEL Y ET AL: "Antioxidant status and lipoprotein peroxidation in chronic fatigue syndrome", LIFE SCIENCES, PERGAMON PRESS, OXFORD, GB, vol. 68, no. 17, 16 March 2001 (2001-03-16), pages 2037-2049, XP002377236, ISSN: 0024-3205 * Conclusion; page 2047 *	1-11	
-/--			
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
Place of search <b>Munich</b>		Date of completion of the search <b>30 April 2014</b>	Examiner <b>Vermeulen, Stéphane</b>
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

1  
EPO FORM 1503 03.02 (P04C04)



**SUPPLEMENTARY  
EUROPEAN SEARCH REPORT**

Application Number  
EP 08 72 1882

<b>DOCUMENTS CONSIDERED TO BE RELEVANT</b>			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	<p>AMANPREET SINGH ET AL: "Effect of Natural and Synthetic Antioxidants in a Mouse Model of Chronic Fatigue Syndrome", JOURNAL OF MEDICINAL FOOD, MARY ANN LIEBERT, LARCHMONT, NY, US, vol. 5, no. 4, 1 December 2002 (2002-12-01), pages 211-220, XP002654505, ISSN: 1096-620X, DOI: 10.1089/109662002763003366 [retrieved on 2004-07-07]</p> <p>* page 214 - page 217; figures 1,2; table 1 *</p> <p>* page 218, last paragraph *</p> <p align="center">-----</p>	1-11	
Y	<p>LOGAN A C ET AL: "Chronic fatigue syndrome: oxidative stress and dietary modifications", ALTERNATIVE MEDICINE REVIEW, THORNE RESEARCH INC., SANDPOINT, US, vol. 6, no. 5, 1 October 2001 (2001-10-01), pages 450-459, XP009150507, ISSN: 1089-5159</p> <p>* page 452, right-hand column - page 453, right-hand column; table 1 *</p> <p align="center">-----</p>	1-11	TECHNICAL FIELDS SEARCHED (IPC)
Y	<p>HAN BYUNG-HOON ET AL: "Studies on the Antioxidant Components of Korean Ginseng (IV) - Antifatigue Active Components -", YAKHAKHOE-CHI / TAEHAN YAKHAKHOE, KOREAN INTELLECTUAL PROPERTY OFFICE, vol. 28, no. 4, 30 August 1984 (1984-08-30), pages 231-235, XP053002117, ISSN: 0377-9556</p> <p>* the whole document *</p> <p align="center">-----</p> <p align="center">-/--</p>	1-11	
<p>The supplementary search report has been based on the last set of claims valid and available at the start of the search.</p>			
1	Place of search	Date of completion of the search	Examiner
	Munich	30 April 2014	Vermeulen, Stéphane
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p><b>X</b>: particularly relevant if taken alone  <b>Y</b>: particularly relevant if combined with another document of the same category  <b>A</b>: technological background  <b>O</b>: non-written disclosure  <b>P</b>: intermediate document</p>		<p><b>T</b>: theory or principle underlying the invention  <b>E</b>: earlier patent document, but published on, or after the filing date  <b>D</b>: document cited in the application  <b>L</b>: document cited for other reasons</p> <p>.....  <b>&amp;</b>: member of the same patent family, corresponding document</p>	

EPO FORM 1503 01.02 (P0400A)



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	IKEDA T ET AL: "Protective effect of sesamin administration on exercise-induced lipid peroxidation.", INTERNATIONAL JOURNAL OF SPORTS MEDICINE, vol. 24, no. 7, October 2003 (2003-10), pages 530-534, XP009177761, ISSN: 0172-4622 * figures 1,2; table 1 * * Discussion; page 533 *	1-11	
Y	KISO Y ET AL: "Antioxidative effects of sesamin during high intensity exercise.", MEDICINE AND SCIENCE IN SPORTS AND EXERCISE, vol. 35, no. 5 Supplement, 1489, May 2003 (2003-05), page S269, XP009177762, & 50TH ANNUAL MEETING OF THE AMERICAN COLLEGE OF SPORTS MEDICINE; SAN FRANCISCO, CA, USA; MAY 28-31, 2003 ISSN: 0195-9131 * the whole document *	1-11	TECHNICAL FIELDS SEARCHED (IPC)
X	DATABASE WPI Week 200414 Thomson Scientific, London, GB; AN 2004-135836 XP002723851, & JP H10 218785 A (TAKEMURA M) 18 August 1998 (1998-08-18) * abstract *	9-11	
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The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
1	Place of search <b>Munich</b>	Date of completion of the search <b>30 April 2014</b>	Examiner <b>Vermeulen, Stéphane</b>
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background Q : non-written disclosure P : intermediate document			

EP 08 72 1882 (PC/COM)

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DATABASE WPI Week 200326 Thomson Scientific, London, GB; AN 2003-264397 XP002723852, & KR 2002 0090077 A (JEONG S Y) 30 November 2002 (2002-11-30) * abstract *  -----	9-11	
			TECHNICAL FIELDS SEARCHED (IPC)
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
Place of search Munich		Date of completion of the search 30 April 2014	Examiner Vermeulen, Stéphane
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	

EPO FORM 1503 03.02 (P04C04)