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Datasheet for the decision of 9 September 2015

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Application Number: 02731579.5

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Language of the proceedings: EN

Title of invention:
Delta-4 desaturase genes and uses thereof

Patent Proprietor:
Abbott Laboratories

Opponent:
BASF Plant Science GmbH

Headword:
Delta-4 desaturase/ABBOTT

Relevant legal provisions:
EPC Art. 56, 84, 111(1), 112(1)
EPC R. 115(2)
RPBA Art. 15(3), 15(6)

Keyword:
Main request, auxiliary requests 1 and 2 - inventive step (no)
Auxiliary request 3 - inventive step (yes)
Remittal (yes)
Referral (no)

Decisions cited:
T 0111/00, T 0109/02, T 0181/02, T 0776/05, T 0651/08, T 2294/08, T 0018/09

Catchword:
see reasons, points 21 to 35

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Case Number: T 0985/11 - 3.3.04

D E C I S I O N
of Technical Board of Appeal 3.3.04
of 9 September 2015

Appellant: (Opponent)	BASF Plant Science GmbH 67056 Ludwigshafen (DE)
Representative:	Herzog, Fiesser & Partner Patentanwälte PartG mbB Patentanwälte Dudenstrasse 46 68167 Mannheim (DE)
Respondent: (Patent Proprietor)	Abbott Laboratories 100 Abbott Park Road Abbott Park, IL 60064-3500 (US)
Representative:	Boult Wade Tennant Verulam Gardens 70 Gray's Inn Road London WC1X 8BT (GB)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 22 February 2011 concerning maintenance of the European Patent No. 1401259 in amended form.**

Composition of the Board:

Chairwoman	G. Alt
Members:	R. Morawetz
	M. Blasi

Summary of Facts and Submissions

I. The appeal by the opponent (hereinafter "appellant") lies against the interlocutory decision of the opposition division that European patent No. 1 401 259 could be maintained in amended form.

II. The patent at issue has the title "Delta-4 desaturase genes and uses thereof". It was granted in respect of European patent application No. 02731579.5, which originated from international patent application No. PCT/US2002/013589, published as WO 2002/090493, and which claims priority of US849199, filed on 4 May 2001, and of US120637, filed on 11 April 2002.

III. Documents cited in this decision:

D1 WO02/26946 published 4 April 2002

D2 US09/849,199 filed 4 May 2001

D3 ClustalW alignment of amino acid sequences from the patent (SEQ ID NO: 37) and document D1 (Figure 1)

D7 Alignment of SEQ ID NO: 36 of the patent with SEQ ID NO: 1 of document D1

D10 Declaration of Dr. T. Senger

D11 Declaration of Dr. S. Pereira

IV. The patent was opposed under Article 100(a) EPC on the grounds of lack of novelty (Article 54(3) EPC) and lack of inventive step (Article 56 EPC). The opposition division decided that the patent could be maintained in

amended form on the basis of auxiliary request 3.

V. The appellant filed its statement of grounds of appeal containing arguments under Article 56 EPC against auxiliary request 3.

VI. In response to the statement of grounds of appeal the proprietor (hereinafter "respondent") made auxiliary request 3 its main request and filed auxiliary requests 1 to 6.

Claim 1 of the main request reads:

"1. An isolated nucleotide sequence comprising a nucleotide sequence encoding a polypeptide having Δ4-desaturase activity, wherein the amino acid sequence of said polypeptide has at least 70% identity to an amino acid sequence selected from the group consisting of SEQ ID NO: 18, SEQ ID NO: 19, SEQ ID NO: 20, SEQ ID NO: 21, SEQ ID NO: 46 and SEQ ID NO: 55 or wherein the amino acid sequence of said polypeptide comprises the amino acid sequence of SEQ ID NO: 37."

Claim 1 of auxiliary request 1 reads:

"1. An isolated nucleotide sequence comprising a nucleotide sequence encoding a polypeptide having Δ4-desaturase activity, wherein the amino acid sequence of said polypeptide has at least 70% identity to an amino acid sequence selected from the group consisting of SEQ ID NO: 18, SEQ ID NO: 19, SEQ ID NO: 20, SEQ ID NO: 21 and SEQ ID NO: 46 or has at least 90% identity to the amino acid sequence of SEQ ID NO: 55 or wherein the amino acid sequence of said polypeptide comprises the amino acid sequence of SEQ ID NO: 37."

Claim 1 of auxiliary request 2 reads:

"1. An isolated nucleotide sequence comprising a nucleotide sequence encoding a polypeptide having Δ4-desaturase activity, wherein the amino acid sequence of said polypeptide has at least 70% identity to an amino acid sequence selected from the group consisting of SEQ ID NO: 18, SEQ ID NO: 19, SEQ ID NO: 20, SEQ ID NO: 21 and SEQ ID NO: 46 or wherein the amino acid sequence of said polypeptide comprises the amino acid sequence of SEQ ID NO: 37 or SEQ ID NO: 55."

Claim 1 of auxiliary request 3 reads:

"1. An isolated nucleotide sequence comprising a nucleotide sequence encoding a polypeptide having Δ4-desaturase activity, wherein the amino acid sequence of said polypeptide has at least 70% identity to an amino acid sequence selected from the group consisting of SEQ ID NO: 18, SEQ ID NO: 19, SEQ ID NO: 20, SEQ ID NO: 21, SEQ ID NO: 46 and SEQ ID NO: 55."

VII. At the oral proceedings before the board on 9 September 2015 the respondent was absent, as announced in its letter of 5 August 2015. They were thus held in accordance with Rule 115(2) EPC and Article 15(3) and (6) RPBA. In the course of the oral proceedings the appellant raised an objection under Article 84 EPC and requested the referral of the following question to the Enlarged Board of Appeal under Article 112(1) EPC:

"Can Art. 111(1) EPC in connection with Art. 15(3) and (6) RPBA be interpreted such that a case may be remitted to the department of the first instance to adapt the description to an allowable set of claims, if a duly summoned patent proprietor is absent at the oral

proceedings and if the opponent has raised an objection under Art. 84 EPC due to the lack of an adapted description."

At the end of the oral proceedings the chairwoman announced the board's decision.

VIII. The arguments of the appellant submitted in writing and during the oral proceedings may be summarised as follows:

Main request

Article 56 EPC

Document D1 represented the closest prior art. This had not been disputed by the respondent. It disclosed a delta-4 (Δ4)-desaturase and variants thereof from *Thraustochytrium* sp. (Figure 1, SEQ ID NO:1, SEQ ID NO:2). The amino acid sequence of the *Thraustochytrium* sp. Δ4-desaturase was 75% identical on the amino acid level with the Δ4-desaturase from *Schizochytrium aggregatum* (*S. aggregatum*) shown in SEQ ID NO: 36 of the patent (see document D3) and 77.5% identical on the nucleic acid level (see document D7).

The difference between the disclosure of document D1 and the claimed subject-matter was that the Δ4-desaturases were encoded by different nucleic acid sequences. The problem to be solved was the provision of alternative Δ4-desaturases. This had not been disputed by the respondent.

The solution lacked inventive step because from document D1 it would have been obvious to a skilled person to provide alternative Δ4-desaturases from *Schizochytrium species.*

Document D1 disclosed on page 18, lines 7 to 10, that nucleic acids encoding Δ4-desaturase variants could be obtained from different species. It also gave a generic disclosure of organisms from which Δ4-desaturases could be obtained on page 17, lines 6 to 11 and lines 27 to 36, and on page 18, lines 10 to 12, specifically mentioned the genus *Schizochytrium* as a suitable source.

Document D1 provided an incentive and the means to clone alternative Δ4-desaturases and made it clear on page 18 that Δ4-desaturase sequences could be obtained by conventional molecular biology approaches such as hybridisation.

The selection of the particular *Schizochytrium* species *S. aggregatum* was arbitrary. There was no evidence on file that its Δ4-desaturase differed from the Δ4-desaturases from all the other *Schizochytrium* species.

Following the route suggested in document D1 for cloning desaturases, the skilled person would hence have arrived at the claimed Δ4-desaturase through routine experimentation. There was no evidence of any obstacles which would have prevented the skilled person from having a reasonable expectation of success.

Document D11 had been submitted by the respondent in support of its contention that no reasonable expectation of success existed. However, at the effective date of the claimed sequences, document D1 was available to the

public. There was no evidence on file that the skilled person starting from document D1 would have encountered problems.

Auxiliary requests 1 and 2

Article 56 EPC

The arguments submitted for the main request applied also to these requests.

Auxiliary request 3

Article 56 EPC

Document D1 represented the closest prior art and the problem to be solved was the provision of alternative Δ4-desaturases.

It had not been made plausible that each and every sequence that was at least 70% identical to SEQ ID NO: 55 would encode a protein with Δ4-desaturase activity or that Δ4-desaturases existed within said sequence range. Accordingly, the problem was not solved over the entire claimed range.

Document Dl in general suggested cloning Δ4-desaturases from other organisms which - based on their content of polyunsaturated fatty acids and in particular DHA - qualified as suitable sources.

This was exactly the teaching which the inventors of the contested patent had applied in order to identify the algae *Isochrysis galbana* (*I. galbana*) as a source for a putative Δ4-desaturase, see page 23, Example IX, paragraph [0137] of the patent.

The approach chosen by the inventors of the contested patent for identifying a Δ4-desaturase was to generate a cDNA library from that organism and to randomly sequence all of the clones. This library sequencing and bioinformatic identification approach was well established at the relevant priority date. Alternatively, the skilled person would have also considered an approach based on PCR using degenerate primers.

Thus, it would have been obvious to try to provide a Δ4-desaturase from *I. galbana* and there would have been a reasonable expectation of success.

Article 84 EPC

The description referred to SEQ ID NO: 36 and SEQ ID NO: 37 and thus was not adapted to the claimed subject-matter, contrary to the requirements of Article 84, second sentence, EPC. Since the respondent was absent, the description could not be adapted at the oral proceedings. Accordingly, the patent had to be revoked.

Decision in respect of appeals (Article 111(1) EPC)

The case should not be remitted to the opposition division for adaptation of the description for reasons of procedural economy and legal certainty, see Article 15(3) and (6) RPBA and decisions T 109/02, T 181/02, T 651/08, T 776/05 and T 2294/08. The non-attendance of the respondent should not be allowed to delay the proceedings.

Referral

If the board intended to deviate from decisions T 109/02, T 181/02, T 651/08, T 776/05 and T 2294/08, it would have to refer to the Enlarged Board of Appeal the question filed during oral proceedings, in order to ensure uniform application of the law.

IX. The arguments of the respondent submitted in writing may be summarised as follows:

Main request

Article 56 EPC

The arguments of the appellant and its technical expert were flawed because they were entirely based on impermissible hindsight. Declaration D11 set forth the methods used to identify the Δ4-desaturase and clone it from *S. aggregatum.* The inventors had initially designed degenerate primers based on an alignment of known Δ5- and Δ6-desaturases. Several of these primers did not work.

The primers that did work were produced by aligning known Δ6-desaturases. There was nothing in document D1 that would have led the skilled person to consider aligning solely Δ6-desaturase sequences in order to design primers for cloning a Δ4-desaturase enzyme.

Document D1 disclosed four novel desaturases, not just the Δ4-desaturase. It did not specifically suggest identifying a further Δ4-desaturase, and it was questionable whether the skilled person would have a reasonable expectation of successfully providing one.

Moreover, there was nothing in document D1 that would have directed the skilled person towards identifying a Δ4-desaturase from *S. aggregatum*. Document D1 referred only to the genus *Schizochytrium*, which comprised four other species.

The route suggested in the prior art failed, as demonstrated by the unsuccessful experiments carried out by the present inventors. In line with decision T 18/09, inventive step should be acknowledged if the skilled person had no reasonable expectation of finding the claimed molecule by following the route indicated in the prior art.

Auxiliary requests 1 and 2

Article 56 EPC

No further arguments were submitted for these requests.

Auxiliary request 3

Article 56 EPC

The problem was solved across the entire scope of the claims because only variants with the required activity fell within their scope.

The person skilled in the art knew how to create mutants falling within the claimed range and also, both from the teaching of the prior art and the patent itself, how to test such mutants for Δ4-desaturase activity.

The appellant's arguments were based on the assumption that those skilled in the art would think to look to *I. galbana* as a suitable source for a Δ4-desaturase in

the first place. However, there was nothing in the prior art that would have directed them towards analysing this particular organism for the purposes of identifying a Δ4-desaturase. Document D1 did not mention any algal species at all.

The species *I. galbana* could not be considered an obvious choice, as it was poorly characterised before the priority date of the patent. There was very little genomic data available and this particular organism, unlike many others, had not previously been used for the extensive study of polyunsaturated fatty acid (PUFA) metabolism and desaturase enzymes.

The inventors could not adopt a conventional cloning approach for the identification of the algal enzyme, i.e. they could not simply design degenerate primers based on conserved motifs found in other desaturase enzymes because the required information regarding codon bias was not available for *I. galbana*.

The inventors instead generated a cDNA library from which 2000 primary clones were sequenced, starting from the 5’ end. It was only using this alternative approach that the inventors identified a single 647 bp clone encoding a fragment with approximately 30% amino acid identity to other known Δ5- and Δ6-desaturases. Once the full-length gene sequence was identified, the deduced protein sequence of this gene was found to have only 30% identity with the Δ4-desaturase of *Thraustochytrium aureum*. The Δ4-desaturase of *I. galbana* thus shared only very limited sequence identity with other desaturase enzymes and, in particular, other Δ4-desaturases. So providing it could not be considered obvious from document D1.

Document D1 stated on page 18 that orthologues, homologues and allelic variants could be identified using methods in the art, e.g. by hybridisation to an isolated nucleic acid molecule of document D1 under stringent conditions. The term "stringent hybridisation conditions" was further defined to mean conditions under which sequences that were at least about 70% identical remained hybridised to each other. In view of the low level of sequence identity between the Δ4-desaturase of *I. galbana* and the Δ4-desaturase reported in document D1, it was in fact unlikely that the desaturase now claimed would have been detected using the routes suggested in the prior art.

X. The appellant requested that the decision under appeal be set aside and that the patent be revoked.

The respondent requested in writing that the appeal be dismissed or, alternatively, that the patent be maintained in amended form on the basis of one of the sets of claims filed as auxiliary requests 1 to 6 with the letter dated 24 November 2011.

Reasons for the Decision

1. The duly summoned respondent did not attend the oral proceedings, as announced in its letter of 5 August 2015. In accordance with Rule 115(2) EPC and Article 15(3) and (6) RPBA, the oral proceedings therefore took place in its absence.

2. The patent under consideration relates to nucleic acid molecules that encode delta-4 (Δ4)-desaturases from the fungus *Thraustochytrium aureum* (*T. aureum*), the fungus *Schizochytrium aggregatum* (*S. aggregatum*) and the algae *Isochrysis galbana* (*I. galbana*). Desaturases are

involved in the production of long-chain polyunsaturated fatty acids (LCPUFAs). Δ4-desaturases catalyse the conversion of, for example, adrenic acid (22:4n-6) to ω6-docosapentaenoic acid (DPA, 22:5n-6) and of ω3-docosapentaenoic acid (22:5n-3) to docosahexaenoic acid (DHA, 22:6n-3).

Main request

Inventive step (Article 56 EPC)

3. The appellant raised objections under Article 56 EPC against subject-matter relating to the Δ4-desaturase from *S. aggregatum.* This protein has the amino acid sequence depicted in SEQ ID NO: 37 which is encoded by a nucleic acid molecule having the nucleic acid sequence depicted in SEQ ID NO: 36. It was undisputed that these sequences are not entitled to the first priority date claimed (see section II above) and that therefore document D1 is prior art under Article 54(2) EPC for subject-matter relating to the Δ4-desaturase from *S. aggregatum.*

Closest prior art

4. Document D1 relates to the discovery of novel fatty acid desaturase family members termed Fad4 (Δ4-desaturase), Fad5 and Fad5-2 (Δ5-desaturase), and Fad6 (Δ6-desaturase). These are involved in the biosynthesis of LCPUFAs, such as DHA and DPA, in LCPUFA- producing organisms such as *Thraustochytrium, Pythium irregulare, Schizochytrium,* and *Crythecodinium*. Document D1 reports that DHA has beneficial effects on human health and that biotechnology has long been considered an efficient way to manipulate the process of producing fatty acids in plants and microorganisms. In particular, document D1

discloses the Δ4-desaturase from *Thraustochytrium sp.* (see D1, page 7, Figure 1, SEQ ID NO: 1, SEQ ID NO: 2). It was undisputed that document D1 is the closest prior art and the board sees no reason to differ.

Technical problem to be solved and its solution

5. Starting from document D1, the technical problem to be solved consists in the provision of alternative Δ4-desaturases. In view of the data provided by the patent the board is satisfied that the subject-matter of claim 1, insofar as it relates to the Δ4-desaturase from *S. aggregatum*, provides a solution to this problem.

Obviousness

6. Document D1 discloses not only the nucleotide sequence that encodes the Δ4-desaturase and corresponding amino acid sequence from *Thraustochytrium sp.* (see Figure 1, SEQ ID NO: 1, SEQ ID NO: 2), but also the generation of probes and primers for use in identifying and/or cloning other desaturases (see page 15, lines 4 to 14). The identification of orthologues, i.e. of homologous gene sequences encoding desaturases in different species, is disclosed on page 17, line 27 to page 18, line 35 of document D1. Specifically, it is proposed to identify orthologues using methods known in the art, e.g. by hybridisation to an isolated nucleic acid molecule of document D1 under stringent hybridisation conditions.

7. The genus *Schizochytrium* is explicitly mentioned in document D1 as a possible source for Δ4-desaturases (see page 18, lines 10 to 12). Therefore, in the board's view, the use of any specific species within the genus *Schizochytrium*, e.g. *S. aggregatum*, for the provision of an alternative Δ4-desaturase would be obvious for the

skilled person who would have isolated the nucleotide sequence encoding a Δ4-desaturase from the organism and confirmed the enzymatic properties of the encoded protein by routine methodology (see document D1, page 18, lines 3 to 12, Examples 6, 7, 8, SEQ ID NO: 1, SEQ ID NO: 2). There is no evidence on file that the Δ4-desaturase of *S. aggregatum* differs from the Δ4-desaturases from the other *Schizochytrium* species. The specific nucleotide sequence claimed thus can not impart any inventive step because no unexpected property that would go beyond encoding a Δ4-desaturase is linked to it (see also decision T 111/00, point 9 of the reasons). The nucleic acid sequence encoding the *Thraustochytrium sp.* Δ4-desaturase shows 77.5% identity in 1229 nucleotides' overlap with the nucleic acid sequence encoding the *S. aggregatum* Δ4-desaturase (SEQ ID NO: 36). The skilled person thus also had a reasonable expectation of cloning the *S. aggregatum* sequence using the *Thraustochytrium sp.* Δ4-desaturase sequence as a probe.

8. The respondent argued that the provision of the Δ4-desaturase from *S. aggregatum* was not straightforward. Relying on declaration D11 it submitted that there was nothing in document D1 that would have led the skilled person to consider aligning solely Δ6-desaturase sequences in order to design primers for cloning a Δ4-desaturase enzyme.

8.1 Inventive step is to be assessed on the basis of the skilled person's knowledge before the effective date of the claimed subject-matter. This knowledge may differ from that of the inventors of a patent. In the present case, the skilled person was aware of document D1 which discloses the nucleic acid sequence encoding the Δ4-desaturase from *Thraustochytrium sp.* and provides

clear teaching to use this sequence and fragments thereof as probes for cloning further desaturases (see D1, page 18, lines 3 to 35). The respondent's argument thus fails.

9. The respondent further submitted that the skilled person taking the route indicated in the prior art would have failed to isolate the nucleotide molecule encoding the Δ4-desaturase of *S. aggregatum*, as demonstrated by the unsuccessful experiments carried out by the present inventors. Therefore, in line with decision T 18/09, inventive step should be acknowledged.

9.1 However, as set out above (see point 7), the skilled person aware of the teaching of document D1 would not have followed the approach taken by the inventors and would thus not have encountered the problems they faced in taking that approach, based on primers designed on the basis of known Δ5- and Δ6-desaturases. In the absence of any evidence showing that the approach taught in document D1 would have failed, the board sees no reason to assume that the skilled person would not have been able, as a matter of routine, to isolate the nucleic acid sequence encoding Δ4-desaturase from *S. aggregatum*.

10. In summary, the board concludes from the above that the skilled person would have arrived in an obvious manner at the subject-matter of claim 1, insofar as it relates to the Δ4-desaturase of *S. aggregatum*. Therefore, the main request fails to meet the requirements of Article 56 EPC.

Auxiliary requests 1 and 2

Article 56 EPC

11. Claim 1 of auxiliary requests 1 and 2 relates *inter alia* to an isolated nucleotide sequence comprising a nucleotide sequence encoding a polypeptide having Δ4-desaturase activity, wherein the amino acid sequence of said polypeptide comprises the amino acid sequence of SEQ ID NO: 37, i.e. the Δ4-desaturase of *S. aggregatum*. Thus, the arguments set out above for the main request (see points 3 to 10) apply *mutatis mutandis* to these requests. Therefore, auxiliary requests 1 and 2 likewise fail to meet the requirements of Article 56 EPC.

Auxiliary request 3

Article 56 EPC

12. Auxiliary request 3 relates to Δ4-desaturases from *I. galbana* and *T. aureum.* The appellant raised objections under Article 56 EPC against the subject-matter relating to the Δ4-desaturase from *I. galbana.* This protein has the amino acid sequence depicted in SEQ ID NO: 55 which is encoded by a nucleic acid molecule having the nucleic acid sequence depicted in SEQ ID NO: 54. It was undisputed that these sequences are not entitled to the first priority date claimed (see section II above) and that therefore document D1 is prior art under Article 54(2) EPC for subject-matter relating to the Δ4-desaturase from *I. galbana.*

Closest prior art

13. It was undisputed that document D1 is the closest prior art and the board sees no reason to differ.

Technical problem to be solved and its solution

14. Starting from document D1, the technical problem to be solved consists in the provision of alternative Δ4-desaturases. As a solution, claim 1 provides a nucleotide sequence encoding a polypeptide having Δ4-desaturase activity, wherein the amino acid sequence of said polypeptide has at least 70% identity to the amino acid sequence depicted in SEQ ID NO: 55.

15. The appellant submitted that it had not been shown to be plausible that each and every sequence that was at least 70% identical to SEQ ID NO: 55 would also exhibit Δ4-desaturase activity or that Δ4-desaturases existed within said sequence range. Therefore the problem had not been solved.

15.1 As regards the appellant's first argument, the board notes that the claimed subject-matter is restricted to nucleotide sequences "encoding a polypeptide having Δ4-desaturase activity". Accordingly, only functional sequences are encompassed by the claim. The appellant's first argument thus fails.

15.2 As regards its second argument, the board has no reason to doubt that the skilled person would (i) know how to create variants within the claimed range, and also (ii) know both from the teaching of the prior art and

the patent itself how to test such variants for Δ4-desaturase activity. The appellant's second argument thus also fails.

16. In view of the data provided by the patent, the board is satisfied that the subject-matter of claim 1 solves the technical problem.

Obviousness

17. The question is whether starting from document D1 it was obvious to provide the Δ4-desaturase from *I. galbana*. Document D1 suggests looking for further Δ4-desaturases in LCPUFA-producing organisms, and mentions in this context the organisms *Thraustochytrium, Pythium irregulare, Schizochytrium,* and *Crythecodinium* (see point 4 above). However, it does not mention any algal species, let alone *I. galbana*. At the effective date of the claimed subject-matter the species *I. galbana* was poorly characterised. There is no evidence on file that identifies *I. galbana* as an LCPUFA-producing organism. Thus, neither document D1 nor any other prior art document provides any motivation for the skilled person to look specifically at *I. galbana* when faced with the technical problem formulated above (see point 14).

17.1 Even if the skilled person identified *I. galbana* as a possible source for a Δ4-desaturase, the board has doubts whether the cloning strategy proposed in document D1 would have led to the isolation of the Δ4-desaturase of *I. galbana.*

17.2 Document D1 proposes using hybridisation to e.g. an isolated nucleic acid molecule "under stringent hybridisation conditions", for the identification of orthologues (see page 18, lines 18 to 26). Document D1

defines "stringent hybridisation conditions" to mean conditions under which sequences which are at least about 70% identical remain hybridised to each other (lines 27 to 32). However, the Δ4-desaturase of *I. galbana* shares only very limited sequence identity with the Δ4-desaturase from *Thraustochytrium sp.*, namely 30.8% at the amino acid level (see Figure 22 of the patent). It therefore seems unlikely that the nucleic acid encoding the Δ4-desaturase of *I. galbana* would have been isolated using the route suggested in document D1.

18. The appellant further submitted that the skilled person would have considered an approach based on PCR using degenerate primers.

18.1 However, document D1 does not disclose any degenerate primers that would have been suitable for the isolation of the Δ4-desaturase of *I. galbana.* Moreover, the required information regarding codon bias was not available for *I. galbana* to permit the design of degenerate primers based on conserved motifs found in other desaturase enzymes.

19. Lastly, the appellant submitted that the skilled person would have followed the approach taken by the inventors, namely to generate a cDNA library from *I. galbana* and randomly sequence all of the clones.

19.1 In the board's view this argument involves hindsight, as neither the organism *I. galbana* nor the approach chosen by the inventors is mentioned in document D1. This argument thus also fails.

20. In summary, the board concludes from the above that the skilled person would not have arrived in an obvious manner at the subject-matter of claim 1, insofar as it

relates to the Δ4-desaturase of *I. galbana*. The considerations in respect of claim 1 of auxiliary request 3 apply also to the subject-matter of independent claims 6, 7, 8, 9, 10, 11, 13, 14 and 18 and of dependent claims 2 to 5, 12, 15 to 17 and 19 to 23. Therefore auxiliary request 3 fulfils the requirements of Article 56 EPC.

Adaptation of the description (Article 84, second sentence, EPC) / Remittal (Article 111(1) EPC)

21. At the oral proceedings, the appellant submitted in relation to auxiliary request 3 that the respondent had failed to provide a description that was adapted to the claims of this request. Therefore, auxiliary request 3 contravened the requirements of Article 84, second sentence, EPC. Since the description could not be adapted at the oral proceedings because the respondent was absent, the patent had to be revoked.

22. The board notes that the claims of auxiliary request 3 held allowable by the board no longer encompass subject-matter relating to the Δ4-desaturase of *S. aggregatum*. Accordingly, the description as adapted before the opposition division relates to subject-matter which is no longer claimed and therefore needs to be further adapted.

23. The board does not share the appellant's view that the board must revoke the patent for this reason because of the respondent's inability, due to its absence, to provide an adapted description at the oral proceedings. Instead, the board takes the view, for the reasons set out below, that under Article 111(1), second sentence, EPC it still has discretion to decide how to proceed in this situation, and in particular whether to (1) remit

the case to the opposition division for adaptation of the description or (2) exercise the powers of the opposition division and either (2a) continue the proceedings in writing or (2b) revoke the patent.

24. Rule 115(2) EPC and Article 15(3) RPBA address the situation that a duly summoned party is absent from the oral proceedings. Rule 115(2) EPC provides that the proceedings may continue without that party, and Article 15(3) RPBA confirms that the board is not obliged to delay any step in the proceedings, including its decision, by reason only of the absence of such party who may then be treated as relying only on its written case.

25. These provisions indicate that, by absenting itself from the oral proceedings, a duly summoned party cannot expect that the appeal proceedings will necessarily be conducted differently from if the party had been present, and in particular that they will be continued. The provisions do not however restrict the board's discretion when deciding which of the available options to pursue.

26. In the case of an allowable appeal, whether and to which extent a board deals itself with any issues arising, i.e. exercises the powers of the department whose decision was appealed, or remits the case to that department for further prosecution, is decided by the board on the merits of the case in point. When taking such decisions, the boards consider various aspects, such as the parties' requests, procedural economy, the parties' interest in having the matter examined by two instances, and the right to fair proceedings (see Case Law of the Boards of Appeal, 7th edition 2013, IV.E.7).

27. Considering the available options mentioned in point 23 above, the board decided against continuing the appeal proceedings in writing, for reasons of procedural economy. Furthermore, Article 15(6) RPBA requires boards to ensure that cases are ready for decision at the conclusion of the oral proceedings unless there are special circumstances to the contrary. In the present case, the board could not identify any special circumstances preventing it from taking a decision terminating the appeal proceedings.

28. In support of its request for non-remittal, the appellant argued that the avoidance of further delays, procedural economy, its interest in obtaining a final decision and its need for legal certainty required immediate revocation of the patent.

29. The board is not persuaded by these arguments. From the file history it is apparent that the appellant did not take any steps prior to the oral proceedings to accelerate the opposition or appeal proceedings. The additional delay caused by a remittal seems likely to be fairly short, since the wording of the claims is finalised by the present decision, and the proceedings after remittal will thus be confined to adapting the description. As the board is taking a decision on the allowable version of the claims, procedural economy and legal certainty are also served.

30. As the claims of auxiliary request 3 were found allowable, the board regarded revocation of the patent as inappropriate in the present case. Moreover, it considers that it is required to act in a predictable manner, to ensure fair proceedings for the parties. It has therefore looked at how it has dealt with cases similar to the present one, in which adaptation of the

description needs thorough examination because of the extent to which the claims have been amended during the appeal proceedings. It found that in fact it more often than not remitted such cases for adaptation of the description - even if the patentee was present at the oral proceedings and could have filed an adapted description.

31. In support of its case, the appellant further relied on the following five decisions: T 109/02, T 181/02, T 776/05, T 651/08 and T 2294/08. What all these cases have in common is that the appellant-patentee was absent from the oral proceedings, no description adapted to the amended claim requests was on file, and the patent was ultimately revoked.

32. In all five decisions, the board concerned emphasised that a patent proprietor who prior to oral proceedings files amended claims but no description adapted thereto, and who is not represented at the oral proceedings, cannot "rely on" the proceedings being continued in writing or the case being remitted to the department of first instance for adaptation of the description (see T 181/02, point 4 of the reasons; T 109/02, point 4.2 of the reasons, T 651/08, point 3 of the reasons, T 776/05, point 3.3 of the reasons, and T 2294/08, point 3 of the reasons).

33. The board agrees: a patentee who acts in that way cannot be sure of getting a possibility to adapt the description to the amended claims, and - as shown by the decisions cited by the appellant - does indeed run the risk of losing its patent due to a non-adapted description.

34. However, the board notes that the outcome in T 181/02 and T 776/05 could only have been revocation of the patent, because the deciding board came to the conclusion that, irrespective of the absence of an adapted description, the claims as amended did not meet the requirements of the EPC (see T 181/02, point 3.4 of the reasons and T 776/05, points 2.10 and 3.1 of the reasons), whilst in the three other decisions the board did not elaborate on its reasons for opting for revocation. Be that as it may, this board cannot identify anything in any of the five decisions relied on by the appellant to suggest that the deciding board took the view that it was obliged to revoke the patent for lack of an adapted description, or in other words could not have ordered remittal for adaptation of the description had the circumstances of the case so required. That these boards too - like the present one - regarded themselves as having discretion to remit the case is in fact shown by the statements in their decisions that a patent proprietor cannot "rely on" a postponement of the board's final decision or on a remittal of the case for adaptation of the description.

35. For the reasons set out above (see points 29 and 30), the board decided, exercising its discretion under Article 111(1) EPC, to remit the case to the opposition division for adaptation of the description and the drawings to the claims of auxiliary request 3. By doing so the board did not delay any step in the appeal proceedings and was able to reach a final decision at the conclusion of the oral proceedings, in accordance with Article 15(3) and (6) RPBA.

Referral to the Enlarged Board of Appeal (Article 112(1) EPC)

36. The appellant submitted that uniform application of the law required that the board refer the question filed during the oral proceedings (see section VII above) to the Enlarged Board of Appeal if it intended to deviate from decisions T 109/02, T 181/02, T 651/08, T 776/05 or T 2294/08.

37. Pursuant to Article 112(1)(a) EPC, the boards of appeal refer questions to the Enlarged Board, either of their own motion or upon request from a party, in order to ensure uniform application of the law or if a point of law of fundamental importance arises, if they consider that a decision is required for the above purposes.

38. As set out above, none of the five decisions relied on by the appellant called into question the continued existence of the boards' discretion to decide whether - if the duly summoned patentee is absent from the oral proceedings and no description adapted to the amended claims is on file - to exercise the powers of the opposition division or to remit the case. Accordingly, the present decision does not deviate from those cited.

39. Moreover, based on the analysis set out above, the board found a clear answer in the provisions of the EPC and the RPBA. It therefore did not consider a referral to be required.

40. Accordingly, the appellant's request for a referral to the Enlarged Board of Appeal was refused.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the opposition division with the order to maintain the patent on the basis of the set of claims filed as auxiliary request 3 with the letter dated 24 November 2011, and a description and drawings to be adapted thereto.

3. The request for referral to the Enlarged Board of Appeal of the question filed at the oral proceedings before the board is refused.

The Registrar: The Chairwoman:

D. Hampe G. Alt

Decision electronically authenticated