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Datasheet for the decision of 2 September 2025

Case Number: T 1618/23 - 3.3.08

Application Number: 17755585.1

Publication Number: 3491392

IPC: G01N33/82

Language of the proceedings: EN

Title of invention:
Methods and compositions for assaying vitamin D

Patent Proprietor:
Diazyme Laboratories, Inc.

Opponent:
N.V. Nederlandsch Octrooibureau

Headword:
Methods and compositions for assaying vitamin D/DIAZYME

Relevant legal provisions:
EPC Art. 100(a), 54, 56
RPBA 2020 Art. 12(4), 12(6)

Keyword:
Grounds for opposition - novelty (yes), inventive step (yes)
Amendment to case - amendment admitted (no)

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Beschwerdekammern

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Case Number: T 1618/23 - 3.3.08

D E C I S I O N
of Technical Board of Appeal 3.3.08
of 2 September 2025

Appellant: (Opponent)	N.V. Nederlandsch Octrooibureau Anna van Buerenplein 21a 2595 DA The Hague (NL)
Representative:	Nederlandsch Octrooibureau P.O. Box 29720 2502 LS The Hague (NL)
Respondent: (Patent Proprietor)	Diazyme Laboratories, Inc. 3550 General Atomics Court P O Box 85608 San Diego, CA 92186-5608 (US)
Representative:	Witte, Weller & Partner Patentanwälte mbB Postfach 10 54 62 70047 Stuttgart (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 3 July 2023 rejecting the opposition filed against European patent No. 3491392 pursuant to Article 101(2) EPC**

Composition of the Board:

Chairwoman	T. Sommerfeld
Members:	R. Morawetz
	R. Winkelhofer

Summary of Facts and Submissions

I. The appeal lodged by the opponent (appellant) lies from the opposition division's decision rejecting the opposition against European patent No. 3 491 392 B1 ("the patent"), granted on the basis of European patent application No. 17 755 585.1, which was filed as an international application published as WO 2018/023066.

II. The opposition proceedings were based on the grounds in Article 100(a) EPC, in relation to novelty (Article 54 EPC) and inventive step (Article 56 EPC), and Article 100(b) and (c) EPC.

III. With the appeal, the appellant contested novelty, inventive step, sufficiency of disclosure and basis in the application as filed in relation to the claims as granted.

IV. In reply to the appeal, the patent proprietor (respondent) maintained the patent as granted as their main request.

V. The board scheduled oral proceedings in accordance with the parties' requests and, in a communication pursuant to Article 15(1) RPBA, expressed its preliminary opinion, *inter alia*, on the construction of the term "*homogeneous assay*". The board also held that the appellant's objection of lack of inventive step on the basis of document D17 constituted an amendment of their case within the meaning of Article 12(4) RPBA, and should have been brought forward already before the opposition division. The board concluded that the appeal was likely to be dismissed.

VI. In response to the board's communication, the appellant informed the board that they would not attend the oral proceedings. In addition, they submitted that, based on the board's construction of the term "*homogeneous assay*", document D17 was to be allowed to be used as closest prior art for claims 9 and 12.

VII. The board cancelled the oral proceedings.

VIII. The following documents are referred to in this decision:

D6 WO 2015/200186

D7 WO 2012/129650

D8 Bock J.L., Am J Clin Pathol 2000, vol. 113, pages 628-646

D9 US 2004/0132104

D11 Pulli T. et al., Anal. Chem 2005, vol. 77, pages 2637-2642

D12 Bouillon R. et al., Front. Endocrinol. 2020, vol. 10, pages 1-21

D17 Omi K. et al., Clinical Chemistry 2015, vol. 61, pages 627-635

IX. The parties' submissions and arguments on appeal, in so far as they are relevant to the present decision, are discussed in the Reasons for the decision.

X. The parties' substantive requests which are relevant to the present decision are as follows:

The appellant requests that the decision under appeal be set aside and amended such that the patent be revoked.

The respondent requests that the appeal be dismissed.

Reasons for the Decision

Decision taken in written proceedings

1. The appellant announcing that they would not attend oral proceedings (section VI. above) was equivalent to a withdrawal of their request that oral proceedings be held (Case Law of the Boards of Appeal of the European Patent Office, 11th edition 2025, ("Case Law"), III.C.5.3.2 a)). On the other hand, dismissal of the appeal complies with the respondent's main request.

2. The present decision can therefore be taken in written proceedings and no oral proceedings need to be held before the board (Article 116(1) EPC and Article 12(8) RPBA).

Main request (patent as granted)

Claim construction - claim 1

3. Claim 1 reads as follows:

"1. *A method for assaying a vitamin D moiety in a sample, which method comprises:*

a) contacting a sample containing or suspected of

containing a vitamin D moiety with a buffer of acidic pH in the range from 2.5 to 6.9, and at least two antibodies that are separately conjugated to particles, wherein at least one of said antibodies or the first antibody has a specific binding affinity towards the vitamin D moiety, and at least another said antibody or the second antibody has a specific binding affinity towards the complex formed between the first antibody and the vitamin D moiety; and
b) assessing binding between said antibodies and said vitamin D moiety to determine the presence, absence and/or amount of said vitamin D moiety in said sample,

wherein said method is conducted as a homogeneous assay."

4. The parties disagreed on the meaning of the term "*homogeneous assay*".

5. The appellant relied on the definition of a homogeneous vs. a heterogeneous assay found on an English-language Wikipedia page, the content of which was reproduced in the grounds of appeal, and submitted that a homogeneous assay comprised "*one single mixture step followed by one single measurement step*".

6. For the reasons set out below, the respondent is correct that the appellant's definition of the term "*homogeneous assay*" cannot be agreed with.

7. First, the respondent is correct that, already for the date of its last update, the Wikipedia page is unsuitable as evidence of the understanding of the term "*homogeneous assay*" on the filing date of the patent. Moreover, the respondent is also correct in that the appellant's definition that "*all reagents are mixed*

simultaneously together with the sample to create one reaction mixture before taking a physical measurement" (grounds of appeal, page 2, last paragraph) is incorrect, also in view of the Wikipedia page, which does not contain any time requirement, such as "*simultaneously*". In addition, the appellant's assertion that "*there is no need to add the reagents in a specific sequential order*" (ibid., page 3, line 1) is not derivable from the Wikipedia page either.

8. Second, it can be derived from paragraph [0073] of the patent that a "*homogeneous assay*" is an assay in which "*the present reaction mixtures ... are contained in a single phase or homogeneous phase*" whereas a "*heterogeneous assay*" is an assay in which "*the present reaction mixtures ... are contained in multiple phases*". As also noted in the patent, a homogeneous assay format eliminates the need for sample pre-treatment or phase separation/washing steps (paragraph [0078]).

9. Third, this definition is consistent with the definition given in document D8, a review article published in 2000 and therefore indicative of the common general knowledge prior to the relevant date, according to which ligand-binding assays in which bound and free label are separated are "*heterogeneous*" and involve e.g. a solid phase to which antibodies or other reagents can be attached, whereas the need for a solid phase is eliminated by "*homogeneous*" immunoassays, which do not require a physical separation to determine the fraction of bound label (page 632, right hand column, first paragraph).

10. Finally, the definition given in the patent is also consistent with the definition given in document D6,

the document relied on by the appellant in the context of lack of novelty, according to which "[a]*n assay for a vitamin D analyte can be performed either without separation (homogeneous) or with separation (heterogeneous) of any of the assay components or products*" (e.g. paragraph [0033] of document D6).

11. In view of the above considerations, the term "*homogeneous assay*" in claim 1 means an assay performed in a single phase and hence an assay in which the assay signals can be detected without separating the analyte from other assay reagents.

Novelty - claims 1 to 11, 13 and 15

12. The opposition division held that claims 1 to 15 were novel over document D6.

13. However, the appellant maintained that claims 1 to 11, 13 and 15 lacked novelty over document D6.

14. It is well established in the case law of the boards of appeal that for a claim to lack novelty, its subject-matter must be clearly and directly derivable from the prior art (Case Law, I.C.4). Furthermore, when contesting the novelty of a claim, the content of a document must not be treated as a reservoir from which features pertaining to separate embodiments may permissibly be drawn in order to artificially create a particular embodiment which would destroy novelty, unless the document itself suggests such a combination of features (Case Law, I.C.4.2).

Claim 1

15. The appellant pointed to various passages in document D6 that allegedly disclosed individual features of claim 1, but did not provide a logical chain of reasoning as to why the combination of these features was clearly and directly derivable from document D6, nor did the appellant point to any method in document D6 that would fulfil all the technical features of the method defined in claim 1. For this reason alone, the appellant's argument fails.

16. In agreement with the respondent, the board considers that there is no disclosure in document D6, either explicitly or implicitly, of at least two antibodies that are separately conjugated to particles as recited in claim 1. For this reason too, claim 1 is novel over document D6. Claims 2 to 8 are dependent on claim 1 and are therefore also novel over document D6.

Claim 9

17. Claim 9 reads as follows:

"9. *A kit for assaying a vitamin D moiety in a sample, which kit comprises:*

a) a buffer of acidic pH in the range from 2.5 to 6.9; and
b) at least two antibodies that are separately conjugated to a surface or surfaces or particles wherein at least one of said antibodies or the first antibody has a specific binding affinity towards the vitamin D moiety, and at least another said antibody or the second antibody has a specific binding affinity towards the complex formed between the first antibody

and the vitamin D moiety, if present in said sample."

18. For the same reasons as set out above for claim 1, document D6 also fails to disclose the feature "*at least two antibodies that are separately conjugated to a surface or surfaces or particles*" which is mentioned in claim 9. For this reason alone, claim 9 is novel over document D6. Claim 10 is dependent on claim 9 and claim 11 is dependent on claim 10, respectively. Claims 10 and 11 are therefore also novel over document D6.

Claim 13

19. Claim 13 reads as follows:

"13. *A kit for assaying a vitamin D moiety in a sample, which kit comprises:*

a) a buffer of acidic pH in the range from 2.5 to 6.9;
b) particles coated with a first antibody that has a specific binding affinity to said vitamin D moiety;
c) a second antibody labelled with a signal generating molecule selected from acridinium ester, isoluminol, alkaline phosphatase, horse radish peroxidase or fluoresin, said second antibody having a specific binding affinity towards a complex formed between the first antibody and the vitamin D moiety; and
d) a substrate or substrates solution and/or starter needed for chemiluminescent or fluorescent signal generation."

20. The appellant relied on paragraph [0077] of document D6 as disclosing the feature "*particles coated with a first antibody that has a specific binding affinity to*

said vitamin D moiety" recited in claim 13.

21. Paragraph [0077] of D6 discloses that "*compounds in accordance with the principles described herein* [in D6]", which compounds are the vitamin D epimer or its analogs and not the vitamin D epimer binding partners (e.g. paragraph [0008] of D6), may be associated with a support. The respondent is thus correct in concluding that paragraph [0077] of D6 does not disclose that the vitamin D epimer binding partner and vitamin D binding partner are associated with a support, let alone particles coated with a first antibody that has a specific binding affinity to said vitamin D moiety specifically. Document D6 therefore does not disclose the feature at issue. For this reason alone, claim 13 is also novel over document D6.

Claim 15

22. Claim 15 reads as follows:

"15. *A method for assaying a vitamin D moiety in a sample, which method comprises:*

a) contacting a sample containing or suspected of containing a vitamin D moiety with a buffer of acidic pH in the range from 2.5 to 6.9, and at least two antibodies, wherein at least one of said antibodies or the first antibody has a specific binding affinity towards the vitamin D moiety and is attached to a solid surface of a microtiter plate or a particle, and at least another said antibody or the second antibody has a specific binding affinity towards the complex formed between said first antibody and said vitamin D moiety and is labelled with a signal generating moiety, and
b) assessing binding between said antibodies and said

vitamin D moiety to determine the presence, absence and/or amount of said vitamin D moiety in said sample."

23. The appellant relied on paragraph [0077] of document D6 as disclosing the feature "*at least one of said antibodies or the first antibody has a specific binding affinity towards the vitamin D moiety and is attached to a solid surface of a microtiter plate or a particle*" recited in claim 15.

24. For the same reasons as set out above for claim 13, the respondent is correct that document D6 does not disclose the feature that at least one of said antibodies or the first antibody *"is attached to a solid surface of a microtiter plate or a particle*" recited in claim 15. For this reason alone, also claim 15 is novel over document D6.

25. In view of the above analysis, the opposition division's conclusion with regard to the novelty of the claimed subject-matter is correct.

Inventive step

26. The opposition division held that claims 1 to 15 were inventive "*starting from documents D6 and D8 as closest prior art*" (decision under appeal, Reasons 7.3 [of note, the document referred to as "D8" in the decision under appeal is, in fact, document D9; cf. summary of "*disclosure in D8*" in the decision under appeal, page 8, first paragraph and document D9, abstract, paragraphs [0013] to [0036] and claims]).

27. The appellant did not dispute that the claimed subject-matter is inventive over documents D6 and D9.

28. However, the appellant submitted that document D17 represented the closest prior art for method claims 11, 12 and 14, that claims 11 and 12 were not inventive on the basis of document D17 combined with documents D8 and D12, that claim 14 was not inventive on the basis of document D17 combined with document D12, that the reasoning used for assay claims 11 and 12 also applied to kit claims 9 and 10, and that kit claim 13 was not inventive in view of D17 combined with D12.

29. During the opposition proceedings, the appellant had raised the following inventive step objections:
A) lack of inventive step of claims 1 to 4 and 7 to 15 on the basis of document D7 in combination with common general knowledge, or with document D8, or with document D11;
B) lack of inventive step of claim 1 based on document D9 as the closest prior art, combined with document D17; and
C) lack of inventive step of claim 1, based on document D9 in combination with common general knowledge, or with document D8, or with document D11, or document D17.

30. The appellant's objection of lack of inventive step of claims 9 to 14 on the basis of the combination of document D17 with document D8 and/or document D12, as put forward only on appeal, therefore constitutes an amendment to their case within the meaning of Article 12(4) RPBA.

31. Pursuant to Article 12(6) RPBA, the board shall not admit requests, facts, objections or evidence which should have been submitted in the proceedings leading to the decision under appeal, unless the circumstances

of the appeal case justify their admittance.

32. The appellant defended the submission of the new inventive step attack on the grounds that method claims 11, 12 and 14 and kit claims 9, 10 and 13 did not relate to a homogeneous assay but to a heterogeneous assay. This is not persuasive for the following reasons.

33. First, the patent was granted with method claims 11, 12, 14 and kit claims 9, 10 and 13. Any objection with regard to lack of inventive step of these claims, and thus also the objection based on the combination of document D17 with document D8 and/or document D12, could and should therefore have been raised during the opposition proceedings (Article 12(6) RPBA), irrespective of whether these claims relate to a "*homogeneous assay*" or a "*heterogeneous assay*".

34. Second, the appellant wrongly submitted that it was "*demonstrated in our written submissions* [of 27 February 2023, see grounds of appeal, item 1.1.c] *(page 4, paragraph 1.1.), and further confirmed in the Grounds of Appeal in paragraph 1.1, not all method claims relate to a homogeneous single step assay*" (grounds of appeal, item 3.1).

35. In fact, in their submission of 27 February 2023, page 4, the appellant merely argued that all method claims of the main request are "*single step assays*" except claim 14, which comprises "*several sub-contacting steps*". It was not disputed that claim 14 or any other claim of the main request relates to a homogeneous assay.

36. Accordingly, the appellant's objection that method claims 11, 12 and 14 and kit claims 9, 10 and 13 relate to a heterogeneous assay was not raised in the opposition proceedings, i.e. it is a new objection. In addition, as noted above, the appellant's definition of what constitutes a "*homogeneous assay*" can not be agreed with either.

37. Furthermore, as correctly pointed out by the respondent, document D12 is not prior art and, for this reason too, the appellant's inventive step attacks on appeal which are based on document D12 cannot succeed.

38. In response to the board's communication under Article 15(1) RPBA, the appellant submitted that the definition of the term "*homogeneous assay*" provided by the board in its preliminary opinion, which is the same as set out in point 11. above, made it clear that a washing step is not present in a homogenous process. On this basis, they reiterated that the process in claim 12 was not homogeneous and argued that "*D17 should be allowed to be used as closest prior art at least for this claim (and for the kit of claim 9 used in this claim)*" (submission of 13 June 2025, page 1, penultimate paragraph).

39. The board disagrees.

40. As explained in the board's communication under Article 15(1) RPBA (point 35.) and confirmed above (point 33.), any objection regarding the lack of inventive step of claims 9 and 12 should have been raised in the opposition proceedings. This applies regardless of whether claim 12 is directed to a homogeneous assay or a heterogeneous assay (ibid.).

41. Finally, the appellant's objection of lack of inventive step of claims 1 to 8 and 15 on the basis of the combination of document D6 with document D11 also constitutes an amendment to their case within the meaning of Article 12(4) RPBA.

42. The appellant justified the submission of this new objection as follows: "[s]*hould the Board of Appeal consider that D7 is not suitable as closest prior art for claim 1, we submit the following problem solution approach starting from example 3 of D6 as presented below*" (grounds of appeal, item 3.3, last paragraph).

43. It is well established in the case law of the boards of appeal that appeal proceedings are not a continuation of the opposition proceedings. The patent was granted with method claims 1 to 8 and 15, and any objection with regard to lack of inventive step of these claims, and therefore also the objection based on the combination of document D6 with document D11, could and should have been raised during the opposition proceedings (Article 12(6) RPBA), irrespective of whether or not document D7 is indeed suitable prior art.

44. In view of the above considerations, none of the appellant's new inventive step objections can be admitted and considered (points 30. and 41. above). The question of whether document D17 should be taken into account therefore does not arise.

45. This leaves only the appellant's objection of lack of inventive step of claims 1 to 8 and 15 based on the combination of document D7 with document D8 for the board to deal with.

46. Claim 1 relates to a method for assaying a vitamin D moiety in a sample, wherein said method is "*conducted as a homogeneous assay*". Claims 2 to 8 are dependent on claim 1 and therefore also relate to a homogeneous assay. The fact that claim 15 likewise relates to a homogeneous assay is uncontested.

47. It is common ground that document D7 discloses a lateral flow immunoassay for detecting vitamin D. The appellant asserted that the assay set out in claims 1 to 3 of document D7 and described in more detail on page 5, second paragraph, of document D7 was a homogeneous assay since it was carried out by simply mixing reagents with the sample to take a physical measurement.

48. In view of the construction of the term "homogeneous assay" (view point 11. above), the respondent is correct in that the lateral flow immunoassay in document D7 is not a "homogeneous assay". The reasons are as follows.

49. Claim 1 of document D7 describes a method of screening a fluid sample for a threshold value of vitamin D, comprising the following steps:
"*(a) obtaining a fluid sample from a subject;*
(b) applying the sample to a lateral flow test strip comprising a conjugate pad comprising a known quantity of a labeled antibody against vitamin D;
(c) allowing an immunocomplex to form between the labeled antibody and any vitamin D in the sample;
(d) flowing the labeled antibody or immunocomplex through a test band comprising an immobilized first capture reagent capable of binding to:
i. the labeled antibody but not the immunocomplex, or
ii. the immunocomplex but not the labeled antibody; and

(e) determining whether or not the amount of vitamin D in the sample exceeds a threshold value by detecting or not detecting the labeled antibody in the test band.".

50. Claims 2 and 3 of document D7 relate to the sample treatment before step b) of claim 1 and are irrelevant to the present discussion.

51. On page 5, second paragraph, document D7 discloses that "[i]*n another aspect, the invention comprises a lateral flow immunoassay comprising a lateral flow test strip comprising a conjugate pad capable of releasing a labelled antibody against vitamin D, whereby the labeled antibody and any sample vitamin D forms an immunocomplex, and a detection membrane comprising an immobilized capture reagent capable of binding to i. the labeled antibody but not the immunocomplex, or ii. the immunocomplex but not the labeled antibody.*"

52. The assay set out in claim 1 and on page 5 of document D7 involves separating the analyte from other assay reagents based on migration on the lateral flow test strip by capillary flow, before detection of the assay signal. It therefore is not performed in a single phase and hence is not a "*homogeneous assay*".

53. Therefore, even if the person skilled in the art had combined the disclosure of document D7 with the disclosure of antibodies conjugated to latex particles in document D8 (page 635, left hand column, last paragraph), as submitted by the appellant, they would not have arrived at a method carried out as a homogeneous assay. For this reason alone, claim 1 and also claims 2 to 8 and claim 15 are not rendered obvious by the combination of document D7 with

document D8.

54. In view of the above observations, the opposition division was also correct to conclude that the claimed subject-matter is inventive.

Added subject-matter and insufficiency of disclosure

55. Under Article 12(3) RPBA, the statement of grounds of appeal and the reply must contain the parties' complete appeal case. According to this provision, they must clearly and concisely state the reasons why it is requested that the decision under appeal be reversed, amended or confirmed, and they should specify expressly all the requests, facts, objections, arguments and evidence relied on.

56. The opposition division held that the subject-matter of the main request does not extend beyond the content of the application as filed (decision under appeal, Reasons 3.2 to 3.4), and is sufficiently disclosed (ibid., Reasons 4.2 and 4.3).

57. The appellant stated to disagree with the decision under appeal on these points; however, instead of setting out clearly and concisely the legal or factual reasons why the decision under appeal is alleged to be incorrect on this point and should be reversed, they submitted that "*The Appellant fully relies on his argumentation provided in its Notice of Opposition*" (grounds of appeal, sections 4 and 5). This argumentation was dealt with in the decision under appeal. As a result, the findings in the decision under appeal are not addressed, let alone contested in a sufficiently substantiated fashion, in the grounds of

appeal.

58. Against this background, there is no reason to depart from the decision under appeal on these points either.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairwoman:

L. Stridde T. Sommerfeld

Decision electronically authenticated