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**Datasheet for the decision  
of 26 November 2024**

**Case Number:** T 1688/22 - 3.3.04

**Application Number:** 15739508.8

**Publication Number:** 3152232

**IPC:** C07K14/74, C07K19/00,  
G01N33/543, C12N15/10,  
G01N33/569

**Language of the proceedings:** EN

**Title of invention:**

Determining antigen recognition through barcoding of MHC multimers

**Patent Proprietors:**

Herlev Hospital  
Immudex ApS

**Opponents:**

Kroher Strobel Rechts- und Patentanwälte PartmbB  
Strawman Limited

**Headword:**

Barcoding/HERLEV IMMUDEX

**Relevant legal provisions:**

EPC Art. 83  
RPBA 2020 Art. 13(2)

**Keyword:**

Main request and auxiliary requests 2-18 - Sufficiency of disclosure - (no)

Auxiliary request 1 - Amendment after notification of Art. 15(1) RPBA communication - exceptional circumstances (no)



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Case Number: T 1688/22 - 3.3.04

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.04**  
**of 26 November 2024**

**Appellant I:**  
(Patent Proprietors)

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**Appellant II:**  
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**Appellant III:**  
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**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
2 May 2022 concerning maintenance of the  
European Patent No. 3152232 in amended form.

**Composition of the Board:**

**Chairwoman** M. Pregetter  
**Members:** D. Luis Alves  
M. Blasi

## Summary of Facts and Submissions

- I. European patent EP 3 152 232, entitled "*Determining antigen recognition through barcoding of MHC multimers*", was granted on European patent application No. 15 739 508.8, filed as an international application published as WO 2015/185067.
- II. Two oppositions were filed, invoking the grounds of lack of novelty (Article 54 EPC) and lack of inventive step (Article 56 EPC), under Article 100(a) EPC, as well as the grounds under Article 100(b) and (c) EPC.
- III. The opposition division decided that, account being taken of the amendments in the form of auxiliary request 1, the patent and the invention to which it related met the requirements of the EPC.  
  
With respect to the main request, the opposition division held, *inter alia*, that the patent disclosed in a manner sufficiently clear and complete the invention as defined in the claims (Article 83 EPC), but the subject-matter of claims 1 and 9 lacked novelty (Article 54 EPC).
- IV. Both the patent proprietors (appellant I) and opponents 1 and 2 (appellants II and III, respectively) filed appeals against this decision.
- V. With the statement setting out the grounds of appeal, appellant I filed sets of claims of a main request and auxiliary requests 1 to 17. The main request and auxiliary requests 1 and 4 to 15 were, respectively, identical to those considered by the opposition

division. Auxiliary requests 2 and 3 were identical to auxiliary requests 3 and 2, respectively, considered by the opposition division. Auxiliary requests 16 and 17 were newly filed in appeal.

- VI. With the statement setting out the grounds of appeal, appellant II re-filed documents D1 to D26, D11a, D34, D34a to D34d, D35, D36, D36a, D36b, and D39.
- VII. With the statement setting out the grounds of appeal, appellant III filed documents D40 to D45.
- VIII. Appellants I, II and III filed replies to the appeals. Appellant III filed a replacement copy of document D44 with its reply. With its letter dated 13 April 2023, appellant III submitted further arguments.
- IX. In a subsequent letter, appellant III informed the board that it would not be attending the oral proceedings and withdrew its request for oral proceedings.
- X. The board appointed oral proceedings and in a communication pursuant to Article 15(1) RPBA informed the parties of its preliminary opinion on the appeal case.
- XI. With its letter dated 31 October 2024, appellant II submitted further arguments and documents D46, D47 and D47b.
- XII. The oral proceedings took place in the absence of appellant III in accordance with Rule 115(2) EPC and Article 15(3) RPBA.

At the oral proceedings, appellant I filed a set of claims of an auxiliary request 1 and renumbered the previous auxiliary requests 1 to 17 to auxiliary requests 2 to 18.

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

XIII. The main request consists of 12 claims. Claims 1 and 9 are independent claims, claims 2 to 8 refer back to claim 1 and claims 10 to 12 refer back to claim 9. Claims 1 and 9 of the **main request** read as follows:

"1. A composition comprising a pool of different subsets of multimeric major histocompatibility complexes (multimeric MHC),

wherein each subset of multimeric MHC comprises i) two or more MHC molecules linked to a backbone molecule, and ii) at least one nucleic acid molecule linked to said backbone, said at least one nucleic acid molecule comprising a 5' first primer region, a central region (barcode region), and a 3' second primer region, wherein said barcode serves as a specific label for a given peptide-MHC molecule,

wherein each subset of multimeric MHC has a different peptide decisive for T cell recognition and an associated unique nucleic acid molecule comprising a barcode region, wherein each barcode in each subset of multimeric MHC have shared amplification ends, enabling amplification of all barcodes simultaneously in a PCR reaction."

"9. A method for detecting antigen responsive cells, such as multiple antigen responsive cells, in a sample comprising:

i) providing a composition comprising a pool of different subsets of multimeric MHC according to any of claims 1-8;  
ii) contacting said composition with said sample; and  
iii) detecting binding of each of the multimeric MHC to said antigen responsive cells, thereby detecting cells responsive to an antigen present in each subset of multimeric MHCs,  
wherein said binding is detected by amplifying the barcode regions of said nucleic acid molecules linked to the one or more multimeric MHCs by PCR."

The set of claims of **auxiliary request 1** is identical to that of the main request, apart from the deletion of claims 9 to 12.

In **auxiliary requests 2 to 18**, modified features are present in claim 1 and/or claim 9. Irrespective of the modified feature(s), each request includes a claim directed to a method, which has in common with claim 9 of the main request the wording

"Method for detecting antigen responsive cells, such as multiple antigen responsive cells, in a sample comprising:"

XIV. The arguments of the patent proprietors (appellant I) relevant to this decision may be summarised as follows.

*Admittance of document D46 into the appeal proceedings  
(Article 13(2) RPBA)*

The filing of this document did not address any newly raised issues. The document was filed in the context of sufficiency of disclosure of claim 9 in relation to the detection of anergic T cells. However, this issue had already been addressed in opposition proceedings. Thus, the document could and should have been filed earlier.

It was on the opponents to attack all claims, including claim 9. Method claim 9 was unmodified relative to claim 9 as granted. There was therefore no reason for this document to have been filed only in appeal proceedings.

If appellant II considered that quantitative aspects of anergic T cell detection were relevant to the issue of sufficiency of disclosure, which had not been taken into account by the opposition division, then it should have filed the document with the statement of grounds of appeal.

Moreover, the document was not *prima facie* relevant.

*Main request*

*Disclosure of the invention (Article 83 EPC) - Claim 9*

The method of detecting antigen responsive cells as defined in claim 9 did not include detecting antigen responsive B cells. The claim referred to major histocompatibility complexes (MHCs), and to the pool of multimeric MHC as defined in claim 1. It belonged to the knowledge of the skilled person that MHCs present antigen to T cells. Thus, the skilled person would understand that the method was for detecting T cells. A

proper reading of the claim left no doubts.  
Furthermore, since claim 9 referred back to the pool of subsets of multimeric MHC of claim 1, the method could not be read to be more broadly applicable than the MHC multimers of claim 1.

The method was enabled over the "*vast majority of the claimed scope*".

*Auxiliary request 1*  
*Admittance into the appeal proceedings*  
*(Article 13(2) RPBA)*

This request differed from the main request in that the method claims had been deleted. Therefore, the filing of this request was not an amendment of the case. Furthermore, it did not introduce any new aspects to consider because the claims of this request were all present in the main request.

The aspect of detecting B cells, which was considered for the finding of lack of sufficiency of the main request, had been addressed for the first time at the oral proceedings before the opposition division.

*Auxiliary requests 2 to 18*  
*Disclosure of the invention (Article 83 EPC)*

In relation to the aspect of detecting antigen responsive B cells, considered for the main request, no additional arguments were submitted in the context of auxiliary requests 2 to 18.

XV. The arguments of the opponents (appellants II and III) relevant to this decision may be summarised as follows.

*Admittance of document D46 into the appeal proceedings  
(Article 13(2) RPBA)*

The filing of this document addressed an issue raised in point 21.2.3 of the board's communication pursuant to Article 15(1) RPBA, namely, in relation to sufficiency of disclosure of the method defined in claim 9. The issue was whether detection of anergic T cells, which occurred when carrying out the steps defined in claim 9, interfered with the result of the method to such an extent that the result was wrong. This issue had not been addressed in opposition proceedings. Detection of anergic T cells was addressed for the first time at the oral proceedings before the opposition division.

*Main request*

*Disclosure of the invention (Article 83 EPC) - Claim 9*

For the skilled person, the expression "antigen responsive cells" included T cells and B cells. It was undisputed that the claimed method did not detect antigen responsive B cells. Nevertheless, the plain understanding of claim 9 was that the method was for detecting antigen responsive B cells as well as antigen responsive T cells. Therefore, the non-working area of the claim was not small. On the contrary, half of the claimed embodiments were not sufficiently disclosed.

While claim 9 referred to the composition of claim 1, the latter did not introduce any limitations into the claimed method. If the composition of claim 1 was able

to detect T cells only, this limitation should be included in the method claim.

*Auxiliary request 1*

*Admittance into the appeal proceedings*

*(Article 13(2) RPBA)*

This request amounted to a new line of defence since in none of the claim requests on file up to this stage had the method claims been deleted. It had been the deliberate choice of appellant I not to present any such claim request at an earlier point in time. The request should not be admitted at this stage of the proceedings.

*Auxiliary requests 2 to 18*

*Disclosure of the invention (Article 83 EPC)*

In relation to the aspect of detecting antigen responsive B cells, considered with regard to the main request, no additional arguments were submitted in the context of auxiliary requests 2 to 18.

XVI. The requests of the parties were as follows.

Appellant I requested that the decision under appeal be set aside and the patent be maintained as amended in the form of the main request or, alternatively, that the patent be maintained in amended form on the basis of the set of claims of auxiliary request 1, filed during the oral proceedings, or further alternatively, of one of auxiliary requests 2 to 18, filed as auxiliary requests 1 to 17 with the statement setting out the grounds of appeal. Further, it was requested that none of documents D40 to D47 and D47b be admitted into the appeal proceedings.

Appellant II requested that the decision under appeal be set aside and the patent be revoked in its entirety. Moreover, it was requested that auxiliary requests 1, 4 and 9 to 18 not be admitted into the appeal proceedings.

Appellant III requested in writing that the decision under appeal be set aside and the patent be revoked in its entirety. Moreover, it was requested that auxiliary requests 17 and 18 (filed as auxiliary requests 16 and 17 with the statement of grounds of appeal, respectively) not be admitted into the appeal proceedings.

## **Reasons for the Decision**

### *Admittance of document D46 into the appeal proceedings (Article 13(2) RPBA)*

1. Appellant II filed document D46 in the context of objections under Article 83 EPC in relation to the method defined in claim 9. It was filed to substantiate the argument that the detection of anergic T cells while performing the method led to a wrong result.
2. The filing of this document after notification of the communication of the board pursuant to Article 15(1) RPBA constitutes an amendment to the party's case and its admittance into the appeal proceedings is governed by the provisions of Article 13(2) RPBA. Pursuant to Article 13(2) RPBA, this amendment shall, in principle, not be taken into

account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

3. According to appellant II, this document was filed to address the board's preliminary opinion, as set out in point 21.2.3 of the communication pursuant to Article 15(1) RPBA, that the relevant question was whether the detection of anergic T cells interfered with the assay result to such an extent that the result was wrong.
4. However, in the board's view, its preliminary opinion comprised in the communication pursuant to Article 15(1) RPBA did not introduce any new issue because the extent of the interference, in the present case the unintended detection of anergic T cells, was at the core of the opponent-appellants' objection. For that reason, the board's communication did not create exceptional circumstances as required by Article 13(2) RPBA. Accordingly, the board decided not to admit document D46 into the appeal proceedings.
5. The admittance of the further documents D40 to D45, D47 and D47b had not to be addressed as the board arrived at its conclusion on the appeal case without taking these further documents into account.

*Main request*

*Disclosure of the invention (Article 83 EPC) - Claim 9*

6. The opposition division held *inter alia* that the patent disclosed the invention as defined in claim 9 in a sufficiently clear and complete manner.

7. The opponent-appellants submitted several objections in relation to the aspect of detecting antigen responsive cells. The objection dealt with below is that the method defined in claim 9 does not allow detecting antigen responsive B cells, despite this being included in the purpose of "detecting antigen responsive cells".
8. It was common ground amongst the parties that the method steps as defined in claim 9 do not allow detecting antigen responsive B cells. It was also common ground that "antigen responsive cells" includes both antigen responsive T cells and antigen responsive B cells.
9. However appellant I argued that, in a proper reading of claim 9, the method of detecting antigen responsive cells did not include detecting antigen responsive B cells. For its reading of claim 9, appellant I pointed out the wording "*multimeric MHC*" and "*a pool of different subsets of multimeric MHC according to claims 1-8*".
10. It was common ground that cells binding to major histocompatibility complex (MHC) (or more precisely, to MHC-bound peptide) are T cells. It was also common ground that a reading of the method steps in claim 9 revealed that only T cells can be detected. Therefore, the contentious issue was whether the skilled person would read the purpose stated in claim 9 as worded, i.e. "*for detecting antigen responsive cells*", or whether, on the contrary, the realisation that the method steps could not result in detection of cells other than T cells led to the purpose of the method being read as limited to the detection of antigen responsive T cells.

11. Claim 9 sets out the purpose of the method as "*for detecting antigen responsive cells*". The remainder of the claim wording does not in any way limit, broaden, complement or re-define this purpose. This was also not argued.
  
12. Therefore, the board is of the view that the proper claim interpretation is that the aim of the method is to detect antigen responsive cells. Since the meaning of "antigen responsive cells" is not in dispute, the method as defined in claim 9 also aims at detecting antigen responsive B cells. In the board's view, the fact that the skilled person, after reading the claim, would realise that the method steps do not make it possible to achieve the purpose set out in the claim, does not necessarily lead to a different reading of the purpose of the method, and in the present case does not lead to such a different reading.
  
13. Accordingly, appellant I's argument that the method "*cannot be considered more broadly applicable than the boundaries set by the composition of claim 1*", is not convincing either. While it is apparent that the peptide-MHC multimers mentioned in claim 9 will bind to T cell receptors on T cells, the method steps are not the only features in claim 9. Instead, claim 9 includes as characterising feature the purpose of "*detecting antigen responsive cells*". In other words, the claim was drafted to include a purpose of the method. This purpose cannot be ignored.
  
14. In conclusion, appellant I's line of argument is based on a reading of claim 9 which the board does not share. It was not in dispute that carrying out the method steps will not result in the detection of antigen responsive B cells. Therefore, the method steps as set

out in the claim do not make it possible to achieve the purpose stated in the claim. It has not been argued that the patent, when supplemented with common general knowledge, nevertheless teaches how to achieve the detection of antigen responsive B cells. Therefore, the invention defined in claim 9 of the main request is not disclosed in a manner sufficiently clear and complete for it to be carried out by a skilled person.

*Auxiliary request 1*

*Admittance into the appeal proceedings (Article 13(2) RPBA)*

15. This claim request was filed at the oral proceedings, after the board announced its conclusion that the invention claimed in claim 9 of the main request was not sufficiently disclosed. The claim set consists of product claims 1 to 8, identical to claims 1 to 8 of the main request. Relative to the main request, method claims 9 to 12 have been deleted.
16. Pursuant to Article 13(2) RPBA, any amendment to a party's appeal case made after notification of a communication under Article 15(1) RPBA shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.
17. Appellant I argued that the deletion was not an amendment, did not constitute a new line of defence and did not introduce any new aspects to be considered. The objection addressed by deletion of the method claims had only been discussed for the first time at the oral proceedings before the opposition division.

18. The board did not find these arguments convincing, for the following reasons.
  
19. The filing of the set of claims of auxiliary request 1 represents an amendment to appellant I's appeal case within the meaning of Article 13(2) RPBA. In accordance with Article 12(3) RPBA, a party's complete appeal case is contained in its statement of grounds of appeal and its reply to another party's appeal. They shall set out clearly and concisely the reasons why it is requested that the decision under appeal be reversed, amended or upheld and should specify expressly all the requests, facts, objections, arguments and evidence relied on.

However, neither with the statement of grounds of appeal nor with the reply to the opponents' appeals had appellant I submitted this claim request.

From appellant I's submissions in the statement of grounds of appeal and the reply to the opponents' appeals it was not derivable that, as an auxiliary request, maintenance of the patent in amended form with a set of claims consisting of only claims 1 to 8 of the main request was requested. Making this request for the first time at the oral proceedings was thus an amendment of appellant I's case.

20. No reasons were presented, or apparent to the board, to justify exceptional circumstances. The fact that auxiliary request 1 aimed at addressing an objection which was discussed only at the oral proceedings before the opposition division does not justify filing auxiliary request 1 only at the oral proceedings before the board. The objection was raised anew with the statement of grounds of appeal of appellant II (see page 8, item III.1). Thus, this amendment to appellant I's appeal case was not filed at the earliest

possible point in time, which would have been with the reply to the opponents' appeals. It was also not filed in writing at a later point in time either but only at the oral proceedings before the board.

Leaving aside whether this aspect could be considered as an exceptional circumstance, appellant I's argument that the submission of this claim request did not represent a new line of defence did also not convince the board. None of the claim requests filed up until the oral proceedings before the board contained only product claims, and seeking protection for the product only was not foreshadowed.

21. Appellant I's argument that no new issues were raised by deletion of the method claims is directed to the criteria which are considered by the boards of appeal when exercising discretion under Article 13(1) RPBA and which could additionally be considered in the context of Article 13(2) RPBA. These include the state of the proceedings and, in case of an amendment to a patent, whether the party filing the amendment has demonstrated that it *prima facie* overcomes issues raised by another party without giving rise to new objections. Apart from the fact that Article 13(2) RPBA was applicable in the present situation which requires, first and foremost, the presence of exceptional circumstances justified with cogent reasons by the party concerned, the above criteria, even if additionally considered, did not support the admission of auxiliary request 1. The board, in agreement with the decision under appeal and the opponent-appellants, had already expressed its preliminary opinion in the communication pursuant to Article 15(1) RPBA, point 23, that the subject-matter of claim 1 of the main request lacked novelty over the disclosure in documents D34 and D36. Since claim 1 of

auxiliary request 1 is identical to claim 1 of the main request, it could not be said that *prima facie* this objection was overcome by the filing of auxiliary request 1.

22. In light of the above considerations, auxiliary request 1 was not admitted into the proceedings under Article 13(2) RPBA.

*Auxiliary requests 2 to 18*

*Disclosure of the invention (Article 83 EPC)*

23. At the oral proceedings before the board, appellant I acknowledged that each of these claim requests includes a method claim which, like claim 9 of the main request, recites the purpose of "*detecting antigen responsive cells*". It has not been argued that any additional features in the context of these auxiliary requests were suitable for overcoming the objection under Article 83 EPC raised with regard to the main request. Therefore, the conclusion regarding the main request applies here too and none of auxiliary requests 2 to 18 meets the requirements of Article 83 EPC. The board's taking a decision on substance for these auxiliary requests implies they were admitted into the proceedings.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairwoman:



L. Stridde

M. Pregetter

Decision electronically authenticated