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D E C I S I O N
of 20 August 2004

Case Number: T 0619/01 - 3.3.4

Application Number: 93912143.0

Publication Number: 0634938

IPC: A61K 39/395

Language of the proceedings: EN

Title of invention:

Immunotoxins directed against CD33 related surface antigens

Applicant:

RESEARCH DEVELOPMENT FOUNDATION

Opponent:

-

Headword:

Immunotoxins/RESEARCH DEVELOPMENT FOUNDATION

Relevant legal provisions:

EPC Art. 84, 83

Keyword:

"Main request and auxiliary request: sufficiency of disclosure
(no)"

Decisions cited:

T 0409/91

Catchword:

-



Case Number: T 0619/01 - 3.3.4

D E C I S I O N
of the Technical Board of Appeal 3.3.4
of 20 August 2004

Appellant:

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Representative:

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Decision under appeal:

Decision of the Examining Division of the
European Patent Office posted 11 January 2001
refusing European application No. 93912143.0
pursuant to Article 97(1) EPC.

Composition of the Board:

Chairwoman: U. Kinkeldey
Members: R. Gramaglia
R. Moufang

Summary of Facts and Submissions

- I. European patent application No. 93 912 143.0 relating to immunotoxins directed against CD33 related surface antigens, is based on international application PCT/US 93/03284, which was published as WO 93/20848 with 21 claims.
- II. The application had been refused by the examining division on the grounds that the subject-matter of claims 1, 10 and 18 filed during oral proceedings did not meet the requirements of Article 56 EPC.
- III. An appeal was lodged against this decision. The Statement of Grounds of Appeal comprised a main request, a first and a second auxiliary requests.
- IV. In a communication expressing its provisional, non-binding opinion on the issues to be discussed, the board expressed doubts, *inter alia*, as to whether the application provided sufficient information enabling the skilled person to arrive at the recombinant gelonin referred to in claim 2 of all requests then on file which read:
- "2. A composition according to claim 1, characterized in that the gelonin is selected from the group consisting of 2-iminothiolane modified native gelonin and 2-iminothiolane modified **recombinant gelonin**."
(emphasis by the board).
- V. In reply thereto, the appellant submitted two amended sets of claims in replacement of any previous claim requests, of which claims 1 read as follows:

Main request

"1. A pharmaceutical composition for the treatment of leukemia *in vivo*, the composition comprising a conjugate of SMPT linked-humanised M195 antibody and 2-iminothiolane modified gelonin."

Auxiliary request

"1. A pharmaceutical composition for the treatment of leukemia *in vivo*, the composition comprising a conjugate of SMPT linked-humanised M195 antibody and 2-iminothiolane modified gelonin, characterised in that the composition is intended for parenteral administration and in that it comprises 0.1 to 10 mg/ml of the conjugate."

Claim 2 of both requests was identical to claim 2 of the previous claim requests (see section IV *supra*) relating, as a second alternative, to recombinant gelonin.

- VI. The appellant submitted that it was "within the abilities of one skilled in the art to produce recombinant gelonin by standard techniques such as recombinant DNA technology".
- VII. As had been foreshadowed in a previous letter, the appellant did not attend oral proceedings held on 20 August 2004.

VIII. The appellant (applicant) requested that the decision under appeal be set aside and that the patent be granted on the basis of the claims of the main request or of the auxiliary request both filed 6 August 2004.

Reasons for the Decision

1. The appeal is admissible.

Articles 83 and 84 EPC

2. Article 83 EPC requires an invention to be disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art. As made clear in T 409/91 (OJ EPO 1994, 653, see in particular points 3.3 to 3.5 of the Reasons), the extent to which an invention is sufficiently disclosed is highly relevant when considering the issue of support within the meaning of Article 84 EPC, because both these requirements reflect the same general principle, namely that the scope of a granted patent should correspond to its technical contribution to the state of the art. Hence it follows that, despite being supported by the description from a purely formal point of view, claims may not be considered allowable if they encompass subject-matter which in the light of the disclosure provided by the description can be performed only with undue burden or with application of inventive skill.
3. The requirement of sufficient disclosure means that the **whole** subject-matter that is defined in the claims, and not only part of it, must be capable of being carried

- out by a skilled person without the burden of an undue amount of experimentation.
4. The second alternative of claim 2 of both requests before the board (see section V supra) requires that the cytotoxic moiety of the conjugate referred to in claim 1 be recombinant gelonin. The question thus arises whether there is support in the description for the term "recombinant gelonin" and whether the information contained in the description enables the skilled person to arrive at recombinant gelonin.
 5. The term "recombinant gelonin" cannot be found *expressis verbis* in the application as filed. However, in Example 7 thereof dealing with the construction of a M195 fusion protein, reference is made to "JM105 E. coli expressing optimized gelonin" (see page 21, line 8). This wording comprises for the person skilled in the art so called "recombinant" gelonin, ie gelonin "optimized" by techniques of genetic engineering and produced (expressed) by E. coli.
 6. However, no further instructions are given in the application as to how to prepare this "JM105 E. coli expressing optimized gelonin". Although this wording suggests to the skilled person transfecting E. coli JM105 with a vector comprising a gene coding for an optimized gelonin, this way to proceed was only possible if the starting material, ie the gene encoding gelonin, was available.
 7. One possible route to this starting material could have been isolating the gene encoding gelonin from a natural source. However, no information is given as to how and

where (possibly intact) mRNA (and hence cDNA) encoding gelonin could be isolated, let alone how to further proceed if no such full-length mRNA/cDNA could be isolated. The skilled person was therefore left with doing further research to find a route to this full-length cDNA insert encoding gelonin before he/she could prepare the "JM105 E. coli expressing optimized gelonin".

8. No other routes to isolating the gene encoding gelonin are suggested in the application. One such alternative route open to the skilled person could have been the chemical synthesis of the gene on the basis of the amino acid sequence of gelonin. However, there is no evidence before the board that obtaining the full amino acid sequence of native gelonin having a molecular weight of 29-30 Kd (see page 9, lines 16 to 17 of the application) was an easy task. The fact that neither the patent application nor any other prepublished document presently before the board discloses any (even partial) amino acid sequence of gelonin would rather plead to the contrary, ie that the skilled person could have been confronted with unexpected difficulties such as the heterogeneity/scarcity of the protein. Furthermore, the amino acid sequence of native gelonin (ie, as found after post-translational processing by the plant cell) could not provide any information as to whether or not the full gene as found in the natural source included eg a stretch of DNA encoding a N-terminal leader peptide.
9. In conclusion, it is the board's view that the scanty wording on page 21, line 8 of the application ("JM105 E. coli expressing optimized gelonin") leaves the

burden of finding out how to arrive at recombinant gelonin entirely upon the skilled reader, contrary to the requirements of Article 83 EPC that an invention has to be described in a sufficiently clear and complete manner. Hence, claim 2 of both requests does not meet the requirements of Articles 84 and 83 EPC, following the principles stated in decision T 409/91 (supra) that if a technical feature in a claim is not sufficiently described (Article 83 EPC), it equally lacks the support in the description required by Article 84 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairwoman:

P. Cremona

U. M. Kinkeldey