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D E C I S I O N
of 23 October 2000

Case Number: T 1006/98 - 3.3.4

Application Number: 92202037.5

Publication Number: 0516245

IPC: C12Q 1/68

Language of the proceedings: EN

Title of invention:
DNA Sequencing

Applicant:
PRESIDENT AND FELLOWS OF HARVARD COLLEGE

Opponent:
-

Headword:
DNA Sequencing/HARVARD COLLEGE

Relevant legal provisions:
EPC Art. 76(1)

Keyword:
"Divisional application - extension beyond content of parent application (yes)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1006/98 - 3.3.4

D E C I S I O N
of the Technical Board of Appeal 3.3.4
of 23 October 2000

Appellant: PRESIDENT AND FELLOWS OF HARVARD COLLEGE
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Cambridge
Massachusetts 02138 (US)

Representative: Moon, Donald Keith
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 11 May 1998 refusing European patent application No. 92 202 037.5 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: U. M. Kinkeldey
Members: L. Galligani
S. C. Perryman

Summary of Facts and Submissions

I. The appeal lies from the decision of the examining division issued on 11 May 1998 whereby the European patent application No. 92 202 037.5 (published as EP-A1-0 516 245), a divisional application of the European patent application No. 87 311 435.9 (published as EP-A1-0 265 293), was refused pursuant to Article 97(1) EPC. Basis of the rejection were claims 1 to 13 filed on 16 October 1995.

Claim 1 read as follows:

"A method for determining the nucleotide base sequence of a DNA molecule, comprising the steps of:

providing said DNA molecule annealed with a primer molecule able to hybridize to said DNA molecule,

incubating separate portions of said annealed mixture in at least four vessels, each vessel containing a processive DNA polymerase having a processivity of less than 500 bases, except reverse transcriptase, four different deoxynucleotide triphosphates and a chain terminating agent which chain terminating agent terminates DNA synthesis at a different specific nucleotide base in each of said vessels, wherein the DNA polymerase has less than 500 units of exonuclease activity per mg of DNA polymerase, the concentration of all four deoxynucleoside triphosphates at the start of said incubation is sufficient to allow DNA synthesis to continue until terminated by incorporation of the chain terminating agent, and

separating the DNA products of said incubating reaction according to their size, whereby at least a part of the nucleotide base sequence of said DNA molecule can be determined."

II. The examining division found that, contrary to the requirements of Article 76(1) EPC, the claimed subject-matter extended beyond that of the parent application as filed because claim 1 now referred to the feature "*a processivity of less than 500 bases*", while the application as filed referred to a processivity of at least 500 bases.

III. In their statement of grounds of appeal, the appellants essentially submitted that there was no limitation in the description of the parent application to a processive polymerase that remained bound for at least 500 bases. In this respect, they referred in particular to page 3, lines 20 to 33 and to the passage bridging pages 7 and 8. They requested oral proceedings in the event that the board was not persuaded by their arguments.

IV. On 24 July 2000, the board summoned the appellants to oral proceedings and issued a communication pursuant to Article 11(2) of the Rules of Procedure with the provisional view of the board on the matter.

V. On 20 October 2000, the appellants informed the board that they would not attend the oral proceedings.

VI. Oral proceedings took place on 23 October 2000, no one being present on behalf of the appellants.

VII. The appellants requested in writing that the decision

under appeal be set aside and that the matter be remitted for further prosecution on the basis of the claims on file.

Reasons for the Decision

Article 76(1) EPC

1. The parent application as filed, although referring to different prior art polymerases in the passage bridging pages 7 and 8 relied upon by the appellants, is unambiguous in stating in the same passage (cf page 8, lines 4 to 7) that the polymerases "***such as those of the present invention**, will remain bound **for at least 500 bases and preferably at least 1,000 bases under suitable environmental conditions***" (emphasis added). Only when referring to a pulse step for the purpose of labelling the primer, the parent application as filed refers to the use of conditions in which the polymerase does not exhibit its processivity (cf page 3, lines 26 to 29; cf also page 40, lines 27 to 32). The passage of the description on page 41, lines 11 to 22 refers to a chase step carried out under **specific** conditions such that "*DNA synthesis is terminated after an average of 50-600 bases*".

2. Nothing in the parent application as filed supports a sequencing method according to claim 1 in which "a processive DNA polymerase having a processivity of less that 500 bases" is used. This "cut-point" has been arbitrarily created in the present divisional application as it cannot be derived directly and unambiguously from, and is not consistent with, the

disclosure in the parent application. Thus, in the board's judgement, the application was correctly rejected under Article 76(1) EPC by the examining division.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairperson:

U. Bultmann U. Kinkeldey