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D E C I S I O N
of 23 July 1998

Case Number: T 0131/95 - 3.3.4

Application Number: 87309121.9

Publication Number: 0266099

IPC: C07H 21/04

Language of the proceedings: EN

Title of invention:
Oligonucleoside alkyl or arylphosphonate derivatives capable of
crosslinking with or cleaving nucleic acids

Applicant:
The Johns Hopkins University

Opponent:
-

Headword:
Oligonucleoside/JOHNS HOPKINS

Relevant legal provisions:
EPC Art. 54(3)(4)

Keyword:
"Novelty (yes), after introduction of disclaimer"

Decisions cited:
T 0004/80

Catchword:
-



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Boards of Appeal

Chambres de recours

Case Number: T 0131/95 - 3.3.4

D E C I S I O N
of the Technical Board of Appeal 3.3.4
of 23 July 1998

Appellant:

The Johns Hopkins University
Applied Physics Laboratory
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Baltimore, MD 21218 (US)

Representative:

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Decision under appeal:

Decision of the Examining Division of the
European Patent Office posted 25 August 1994
refusing European patent application
No. 87 309 121.9 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: U. M. Kinkeldey
Members: D. D. Harkness
W. Moser

Summary of Facts and Submissions

I. With its decision issued on 25 August 1994, the Examining Division refused European patent application No. 87 309 121.9, publication No. 0 266 099, relating to "Oligonucleoside alkyl- or aryl-phosphonate derivatives capable of crosslinking with or cleaving nucleic acids" for lack of novelty having regard to the citation EP-A-0 214 908 (document (A)) relevant under Article 54(3) and (4) EPC in respect of its designated states AT BE CH DE FR GB IT LI LU NL SE, but not for Spain (ES) and Greece (GR) being further designated states of the application but not being designated in document (A).

II. The appellant (applicant) lodged an appeal against this decision and filed a statement of grounds together with a new main request and auxiliary requests A and B for designated states other than ES and GR and also with a new main request for ES and GR. All these requests related to method claims only.

Claim 1 of the set of claims according to the new main request for all designated states except ES and GR read as follows:

"1. A method for inactivating or interfering with the function of undesired or foreign nucleic acid by reacting the nucleic acid with a non-ionic oligonucleoside alkyl or arylphosphonate which is complementary to the sequence of the nucleic acid characterised in that the phosphonate has a reactive group which is covalently bonded thereto and positioned to react with the nucleic acid whereby the nucleic acid

is alkylated or crosslinked to the phosphonate or cleaved to render the nucleic acid inactive, with the proviso that in the case of a cleavage reaction the phosphonate is not connected to an intercalating spacer radical."

Claim 1 of the set of claims according to the new main request for designated states ES and GR read as follows:

"1. A method for inactivating or interfering with the function of undesired or foreign nucleic acid by reacting the nucleic acid with a non-ionic oligonucleoside alkyl or arylphosphonate which is complementary to the sequence of the nucleic acid characterised in that the phosphonate has a reactive group which is covalently bonded thereto and positioned to react with the nucleic acid whereby the nucleic acid is alkylated or crosslinked to the phosphonate or cleaved to render the nucleic acid inactive."

In respect of the new main requests the appellant argued essentially as follows:

The disclosure of document (A) was restricted to substances and methods for blocking the action of nucleic acid sequences by means of a chemical reaction which results in the cleavage of nucleic acid chains and was also restricted to the use, in the context of the cleavage reaction, of chemical compounds in which the oligonucleotide was covalently bonded to an intercalating radical and to a chemical radical which was effective in cleaving the nucleotide chain. This prior disclosure included the case in which the reactive chemical radical itself acts as an intercalating spacer.

In view of the foregoing it was submitted that the disclosure of document (A) could be avoided by a disclaimer to the use of such intercalating spacers in the context of a cleavage reaction. Accordingly, claim 1 of the main request for all countries except ES and GR covered three methods of inactivation, namely, alkylation, cross-linking, or cleavage without the use of an intercalating spacer.

In the main request for ES and GR, no disclaimer was necessary and, accordingly, the original scope of the claim was maintained.

The possibility of an alkylation reaction being employed had been reintroduced. The basis for this was to be found in the original application at page 7, last sentence of page 7 and also in the bridging paragraph at the top of page 8.

III. The appellant requested that the decision under appeal be set aside and the case be remitted to the Examining Division for further consideration on the basis of the relevant main or auxiliary requests filed with letter of 22 December 1994.

As an auxiliary request, oral proceedings were requested in the event that the main requests were not accepted by the Board.

Reasons for the Decision

1. *Amendments - Article 123(2) EPC*

- (a) The subject-matter of claims 1 and 2 in each main request finds support on pages 2 and 3 of the description of the European patent application as filed.
- (b) The subject-matter of claim 3 of each main request is supported by the description at pages 3, 8 and 12 and example 3 of the application as filed.
- (c) Claim 4 of each main request refers to the psoralen group, which is referred to on pages 7, 8, 9, and 12 of the description of the application as filed.
- (d) Claim 1 of each main request now includes a reference to the possibility of an alkylation step, and this is supported by page 3 paragraph 1 and by the paragraph which bridges pages 7 and 8 of the description of the application as filed.

Thus, the claims of both main requests comply with Article 123(2) EPC.

2. *Clarity of disclaimer - Article 84 EPC*

The disclaimer "with the proviso that in the case of a cleavage reaction the phosphonate is not connected to an intercalating spacer radical" is allowable, as it is clear and further the subject-matter now claimed cannot technically be defined more clearly and therefore is properly distinguished from that of the prior art document (A) by this disclaimer which conforms with the

requirements applicable to admissible disclaimers set out e.g. in Board of Appeal Decision T 4/80 (OJ EPO 1982, 149), see point 3 of the Reasons.

3. *Novelty - Article 54(3) and (4) EPC*

Document (A), being state of the art according to Article 54(3)(4) EPC, describes a method in which "cleavage" is carried out either chemically or with photochemical irradiation, the phosphonates used having an intercalating radical. On page 7, lines 9 to 13 it is unambiguously disclosed that the compounds according to document (A) are oligonucleotide chains which have covalently bonded to them an intercalating **and** a chemically reactive radical or a radical which is both intercalating and chemically active.

Thus, all of the compounds in document (A) contain "un radical intercalant" which is now disclaimed in the main request for all countries except ES and GR.

Document (A) does not designate ES and GR and thus in the claims of the main request for these designated states no disclaimer is necessary.

For these reasons, the subject-matter of the claims according to the main requests for designated states other than ES and GR and that for ES and GR complies with the requirements of Article 54(3) and (4) EPC.

4. *Remittal - Article 111(1) EPC*

Since the question of novelty under Article 54(3)(4) EPC in the light of document (A) has been resolved by suitable amendment to the claims the Board makes use of its power under Article 111(1) EPC to remit the case to the Examining Division for further prosecution on the

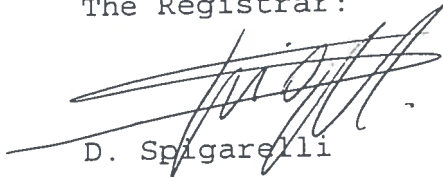
basis of the claims according to the main requests for designated states other than ES and GR and that for ES and GR filed together with the statement of the grounds of appeal on 22 December 1994.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The application is remitted to the Examining Division for further prosecution.

The Registrar:



D. Spigarelli

The Chairwoman:



U. Kinkeldey

DJA · 31.7.98.

W.M. · 3.8.98