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D E C I S I O N
of 25 February 2000

Case Number: T 0825/94 - 3.3.1

Application Number: 89123799.2

Publication Number: 0374952

IPC: C07D 493/08

Language of the proceedings: EN

Title of invention:

7-Oxabicycloheptyl substituted heterocyclic amide
prostaglandin analogs useful in the treatment of thrombotic
and vasospastic disease

Applicant:

E. R. SQUIBB & SONS, INC.

Opponent:

-

Headword:

Prostaglandin analogs/SQUIBB

Relevant legal provisions:

EPC Art. 84

Keyword:

"Clarity and support of claims for compounds (yes) - broad
scope of "aryl" allowable in the light of the disclosed
invention and the cited prior art"

Decisions cited:

T 0238/88, T 0337/95, T 0958/94

Catchword:

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Boards of Appeal

Chambres de recours

Case Number: T 0825/94 - 3.3.1

D E C I S I O N
of the Technical Board of Appeal 3.3.1
of 25 February 2000

Appellant: E. R. SQUIBB & SONS, INC.
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 31 May 1994
refusing European patent application
No. 89 123 799.2 pursuant to Article 97(1) EPC.

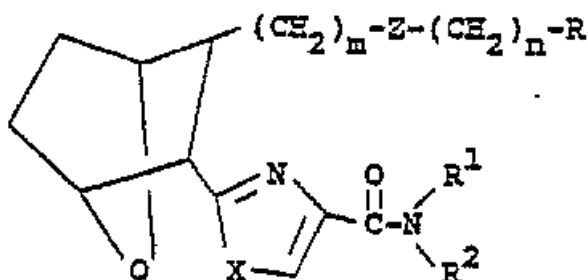
Composition of the Board:

Chairman: A. J. Nuss
Members: J. M. Jonk
R. T. Menapace

Summary of Facts and Submissions

- I. This appeal lies from the decision of the Examining Division refusing the European patent application No. 89 123 799.2, published under number 0 374 952, and relating to 7-oxabicycloheptyl substituted heterocyclic amide prostaglandin analogs useful in the treatment of thrombotic and vasospastic disease.
- II. The decision was based on the originally filed claims comprising a set of Claims 1 to 22 for all the designated Contracting States except ES and GR and separate sets of claims for the Contracting States ES and GR. Claim 1 of the set of claims for all the designated Contracting States except ES and GR read as follows:

"A compound having the formula I



including all stereoisomers thereof, wherein

m is 1, 2 or 3;

n is 0, 1, 2, 3 or 4;

Z is $-(\text{CH}_2)_2-$ or $-\text{CH}=\text{CH}-$

with the proviso when Z is -CH=CH-, n is 1, 2, 3 or 4;

R is CO₂H, CO₂alkali metal, CO₂lower alkyl, CH₂OH, CONHSO₂R³, CONHR^{3a} or -CH₂-5-tetrazolyl;

X is O, S or NH;

R¹ is lower alkyl, lower alkenyl, lower alkynyl, aryl, aralkyl, cycloalkyl or cycloalkylalkyl;

R² is hydrogen, lower alkyl, aryl, or aralkyl;

or R¹ and R² together with the N to which they are linked form a 5- to 8-membered ring;

R³ is lower alkyl, aryl or aralkyl; and

R^{3a} is hydrogen, lower alkyl, aryl or aralkyl."

III. The Examining Division held that the subject-matter of the claims was novel and involved an inventive step in view of the prior art cited in the search report. However, they also held that the subject-matter of Claim 1 did not meet the requirements of Article 84 EPC, since it lacked clarity in view of the term "lower" in combination with various organic residues, and the term "aryl".

In this context, they observed that according to the description of the application in suit the term "lower" was intended to cover up to 16 carbon atoms, and that the term "aryl" was intended to refer to particular monocyclic and bicyclic aromatic groups. Furthermore,

they considered that these particular definitions given in the description had to be indicated in the claims to ensure that the claims defined the matter for which protection was sought in a clear manner and were supported by the description as required by Article 84 EPC. They also considered in this respect that the Applicant's argument based on Article 69(1) EPC and the decision T 238/88, namely that the claims were acceptable under Article 84 EPC since their subject-matter had to be interpreted in the light of the description, did not seem to be applicable in the present case, since the incorporation of the definitions from the description into the claims would still allow the claims to cover the invention disclosed in the application.

- IV. The Appellant maintained his point of view that having regard to the principles laid down in the decision T 238/88, which comprised a headnote reading as follows:

"The clarity of a claim is not diminished by the mere breadth of a term of art (e.g. "alkyl") contained in it, if the meaning of such a term - either per se or in the light of the description - is unambiguous for a person skilled in the art.",

there was no need to redraft the claims as filed in order to meet the requirements of Article 84 EPC.

- V. In a communication dated 18 August 1999 the Board informed the Appellant by referring to the decision T 337/95 that, in the absence of any unambiguous reference point, the relative term "lower" in relation

to an organic residue like "alkyl" did not appear to have a generally accepted meaning with respect to its maximum number of carbon atoms, so that it did not seem to be suitable for clearly defining the subject-matter for which protection was sought in a claim which was directed to a group of organic compounds per se.

VI. In reply, the Appellant filed on 14 October 1999 one set of Claims 1 to 24 in lieu of the three sets of claims of the application as filed.

In this new set of claims the objected term "lower" was deleted.

Moreover, the Appellant observed with respect to this new set of claims that the method Claim 23 corresponded to Claim 1 of the originally filed set of claims for Spain, and that it also comprised a process claim in accordance with the decision T 958/94 in order to ensure some form of protection for the pharmaceutical compositions of the invention in Spain and Greece.

VII. Finally, the Appellant requested that the decision under appeal be set aside and a patent be granted on the basis of the Claims 1 to 24 filed on 14 October 1999.

Reasons for the Decision

1. The appeal is admissible.
2. As the Appellant has filed amended claims in order to overcome the sole objection upon which the decision

under appeal was based, namely lack of clarity, the only issues to be dealt with in the present case are (i) whether the deletion in Claim 1 of the term "lower" complies with Article 123(2) EPC, and (ii) whether the subject-matter of the claims meets the requirements of Article 84 EPC concerning the meaning of "aryl" with respect to the residues R, R¹, R², R³ and R^{3a} indicated in formula I of Claim 1.

3. *Compliance with Article 123(2) EPC*

3.1 In view of the deletion in Claim 1 of the term "lower" of the groups "lower alkyl" (in the definition of R, R¹, R², R³ and R^{3a}), and the groups "lower alkenyl" and "lower alkynyl" (in the definition of R¹) the question to be answered is whether the unrestricted groups "alkyl", "alkenyl" and "alkynyl" indicated in present Claim 1 are supported by the description of the application in suit as originally filed.

3.2 Wherever the terms "lower alkyl", "lower alkenyl" and "lower alkynyl" appear in the description as filed, they have the same meaning as the corresponding unrestricted terms "alkyl", "alkenyl" and "alkynyl" (see page 4, first paragraph; and page 5, lines 11 to 28).

3.3 Thus, in these particular circumstances, the Board concludes that the subject-matter of the present Claim 1, which only differs from the Claim 1 of the application as filed for the designated Contracting States except ES and GR by the deletion of the relative term "lower", is clearly supported by the description and, therefore, meets the requirements of

Article 123(2) EPC.

4. *Clarity and support under Article 84 EPC*

4.1 The Examining Division held in this respect that Claim 1 did not meet the requirements of Article 84 EPC, because the term "aryl" was intended to refer to particular monocyclic and bicyclic aromatic groups. Moreover, they held that the Applicant's arguments on the basis of Article 69(1) EPC and decision T 238/88 were not pertinent in the present case, because the incorporation of the restricted definitions from the description into the claims would allow the claims to provide an appropriate protection for the invention disclosed in the application.

4.2 In this context, the Board observes that, in line with the decision T 238/88 (see points 5.1 and 5.2 of the reasons), the feature "aryl" in the definition of the substituents R^1 , R^2 , R^3 and R^4 undoubtedly concerns a well-known and commonly used technical term of art in the chemical field and, therefore, **is clear as such**.

4.3 Therefore, and having regard to the Examining Division's considerations mentioned above, the further question to be examined is whether the feature "aryl" in Claim 1 is **clear** and **supported** within the meaning of Article 84 EPC **in view of the description** as filed.

4.4 As regards the feature "aryl" the description of the application in suit as filed (see page 4, lines 22 to 33) reads as follows:

"The term **"aryl"** or **"Ar"** as employed herein refers to

monocyclic or bicyclic aromatic groups containing from 6 to 10 carbon atoms in the ring portion, such as phenyl, naphthyl. **Aryl (or Ar)**, phenyl or naphthyl **may include substituted aryl**, substituted phenyl or substituted naphthyl, which may include 1 or 2 substituents on either the phenyl or the naphthyl such as lower alkyl, trifluoromethyl, halogen (Cl, Br, I or F), lower alkoxy, aralkoxy, hydroxy, alkylthio, alkylsulfinyl, alkylsulfonyl, arylthio, arylsulfinyl, and/or arylsulfonyl." (emphasis added)

4.5 Although the first sentence of this passage refers with respect to the feature "aryl" to its most common representatives, namely to monocyclic and bicyclic aromatic substituents having from 6 to 10 carbon atoms in the ring portion, in the Board's judgment, it cannot be concluded from the passage as a whole, that said feature "aryl" **only** stands for an optionally substituted monocyclic or bicyclic aromatic substituent, such as phenyl or naphthyl, because it indicates in its second sentence that "aryl" may include substituted aryl. Therefore, and in view of the fact that the primary function of a claim is to set out the scope of protection sought for an invention, the Board concludes that the feature "aryl" in Claim 1 has its well-known and clear meaning, and broadly stands for an aromatic hydrocarbon rest having at least one benzene ring, for instance, phenyl, naphthyl, anthryl and phenanthryl, and that this meaning is not in contradiction to the description of the application in suit.

4.6 Concerning the further requirement under Article 84 EPC, namely that the claims must be supported by the

description, the Board notes that according to the established jurisprudence of the Boards of Appeal, pursuant to Article 84 EPC a claim has to specify all the essential features which are necessary for solving the technical problem with which the application is concerned. This applies in particular to such features which distinguish the invention from the closest state of the art.

4.7 Furthermore, since the primary function of a claim is to define the scope of protection sought for an invention, the extent to which generalisations of technical features are permissible has to be established in each individual case in the light of the relevant prior art. As a general rule, a claim is "supported" within the meaning of Article 84 EPC if it is not so broad that it goes beyond the invention as disclosed; on the other hand, this provision shall not be construed as giving rise to further restrictions which deprive the applicant of a just reward for the disclosure of his invention.

4.8 In the present case, the Board concurs with the Examining Division's point of view, indicated in their communication dated 21 September 1993, that the class of compounds having formula (I) as defined in Claim 1 as originally filed essentially differed from that of the prior art cited by the Examining Division during the substantive examination of the application in suit, namely,

(1) US-A-4 663 337, and

(2) US-A-4 456 617,

in that the compounds of the formula (I) contained a particular heterocyclic ring bridging the 7-oxa-bicycloheptane ring and the amide group.

- 4.9 Although Claim 1 as originally filed comprised this distinguishing essential feature, the Examining Division apparently held in this respect (see point 4.1 above) that its scope of protection was too broad and that it **lacked further essential features**, namely particular monocyclic or bicyclic aromatic groups as aryl groups in relation to the substituents R¹, R², R³ and R^{3a}.

However, this point of view was not substantiated by the Examining Division.

Moreover, after having examined this issue in accordance with Article 111(1) EPC, the Board has come to the conclusion that the original text of the application, in particular in view of the definitions of the substituents R¹, R², R³ and R^{3a} and the passage indicated above under point 4.4, does not give any indication that said particular monocyclic or bicyclic aromatic groups would be essential to the claimed invention.

- 4.10 Therefore, and because of the fact that in the light of the prior art the class of compounds as claimed in the application in suit is essentially characterised by the particular heterocyclic ring bridging the 7-oxa-bicycloheptane ring and the amide group, in the Board's judgment, a restriction of the claim to said particular monocyclic or bicyclic aromatic groups is not necessary; rather it would narrow the scope of

protection for the disclosed invention in an unwarranted manner.

In this context, the Board emphasises that in the absence of a reasonably concrete basis for objecting to the scope of protection sought for an invention which relates to a group of compounds, an examination of the suitability of each and every imaginable substituent is neither necessary nor appropriate.

5. *Remittal to the first instance*

5.1 The Board's review of the decision under appeal being limited to the issues of clarity and support within the meaning of Article 84 EPC regarding the claims as they now stand, the application in suit in the present form still needs further examination in order to establish whether it meets the other requirements of the EPC. It is therefore appropriate to make use of the Board's power under Article 111(1) EPC and to remit the case to the first instance for further prosecution.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance for further prosecution.

The Registrar:

The Chairman:

E. Görgmaier

A. Nuss