The opinion in support of the decision being entered today was not written
for publication and is not binding precedent of the Board.

Paper No. 67

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte MICHAEL J. POWELL,
ANTHONY R. REES,
PAUL M. BOOTH,
HONG WONPYO,
RICHARD C. TITMAS, and
RICHARD J. MASSEY

Appeal No. 2001-1957[1]
Application No. 08/479,849

ON BRIEF[2]

Before SCHEINER, ADAMS, and MILLS, Administrative Patent Judges.

ADAMS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 15-25, which are all the claims pending in the application.

Claim 15 is illustrative of the subject matter on appeal and is reproduced below:

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[1] This appeal is related, through at least one common parent application, to Appeal No. 2000-0893 (Application No. 08/392407), and Appeal No. 2001-1910 (Application No. 08/325,540). Accordingly, these appeals were considered together.

15. An antigen comprising an epitope for eliciting a catalytic antibody, wherein said catalytic antibody is immunologically cross reactive to an amino acid sequence of said epitope at or adjacent to the site of a naturally occurring metastable peptide bond, wherein said epitope comprises an analog of said metastable peptide bond, said analog comprising a chemical group selected from the group consisting of a difluoroketone, a phosphoramidate, and a phosphonate wherein said chemical group mimics a substrate for metastable peptide bond hydrolysis.

The references relied upon by the examiner are:

Benkovic et al. (Benkovic) 4,900,674 Feb.13, 1990

Geiger, Terrence et al. (Geiger), "Deamidation, Isomerization, and Racemization at Asparaginyl and Aspartyl Residues in Peptides," J. Biol. Chem., Vol. 262, No. 2, pp. 785-794 (1987)

Janda, Kim D. et al. (Janda), "Induction of an Antibody That Catalyzes the Hydrolysis of an Amide Bond, " Science, Vol. 241, pp. 1188-1191 (1988)

Kossiakoff, "Tertiary Structure Is a Principal Determinant to Protein Deamidation," Science, Vol. 240, pp. 191-194 (1988)

Lura, Richard et al. (Lura), "Role of Peptide Conformation in the Rate and Mechanism of Deamidation of Asparaginyl Residues," Biochemistry, Vol. 27, pp. 7671-7677 (1988)

Stephenson, Robert C. et al. (Stephenson), "Succinimide Formation from Aspartyl and Asparaginyl Peptides as a Model for the Spontaneous Degradation of Proteins," J. Biol. Chem., Vol. 264, No. 15, pp. 6164-6176 (1989)

GROUND OF REJECTION

Claims 15-25 stand rejected under 35 U.S.C. § 103 as being unpatentable over Benkovic or Janda in view of Lura, Stephenson, Geiger or Kossiakoff.

We reverse.

DISCUSSION

On this record, the examiner finds (Answer, page 3) that Benkovic and

[2] In accordance with 37 CFR § 1.194(c), the Board decided that an oral hearing was not

Janda "teach that the antigens used to make a catalytic antibody may 'structurally resemble high-energy intermediate species anticipated in a chemical reaction' … or be 'structurally analogous to the preselected' bond that it is desired to modify….['']" In addition the examiner finds (id.) Benkovic and Janda teach "that phosphonamidates … and phosphonate groups … may be used in antigens." With regard to Lura, Stephenson, Geiger, and Kossiakoff, the examiner finds (id.) "[t]he secondary references teach that certain peptide bonds are metastable and outline certain intermediates that they may go through in reacting."

Based on this evidence, the examiner concludes (Answer, pages 3-4):

> It would have been obvious to one of ordinary skill in the art to use the teaching of the primary references that analogs of the substrate, and specifically phosphonamidates or phosphonates, may be used as antigens to produce catalytic antibodies along with the secondary reference that teach specific metastable peptide bonds and several intermediate transition states, to make the claimed invention.

Stated differently, the examiner maintains (Answer, page 7) "that the ordinary artisan would have combined the instant references to make the instant claims obvious."

In response, appellants argue (Brief, page 13), "Benkovic and Janda simply fail to teach or suggest the claimed invention, and there is no motivation or reasonable expectation of success of modifying Benkovic and Janda to derive the claimed invention." Appellants find (Brief, page 9), "the peptide bonds of Janda and Benkovic are not metastable peptide bonds, as they do not have a natural propensity toward spontaneous cleavage." In addition, appellants find

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necessary in this appeal.

(Brief, page 13), "[t]he secondary references only suggest that certain specific peptide bonds may be considered metastable peptide bonds, but they do not teach or suggest how one might design an analog that mimics metastable peptide bond hydrolysis to enhance native metastable peptide bond modification."

We recognize the examiner's reliance on In re Winslow, 365 F.2d 1017, 151 USPQ 48 (CCPA 1966), arguing (Answer, page 6) "that the inventor with all the prior art around him would have arrived at the instant claimed invention…." However, we remind the examiner that prima facie obviousness based on a combination of references requires that the prior art provide "a reason, suggestion, or motivation to lead an inventor to combine those references." Pro-Mold and Tool Co. v. Great Lakes Plastics Inc., 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1629 (Fed. Cir. 1996).

> [E]vidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved. . . . The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular.

In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) (citations omitted). The suggestion to combine prior art references must come from the cited references, not from the application's disclosure. See In re Dow Chemical Co., 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988).

As set forth in In re Kotzab, 217 F.3d 1365, 1369-70, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000):

> A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. … Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher." …
>
> Most if not all inventions arise from a combination of old elements. … Thus, every element of a claimed invention may often be found in the prior art. … However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. … Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant. [Citations omitted].

In other words, "there still must be evidence that 'a skilled artisan, . . . with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.'" Ecolochem Inc. v. Southern California Edison, 227 F.3d 1361, 1375, 56 USPQ2d 1065, 1075-76 (Fed. Cir. 2000).

In our opinion, the statement of the rejection on this record establishes, at best, that individual parts of the claimed invention were known in the prior art. There is however, nothing in the statement of the rejection, or the prior art relied upon that would have lead a skilled artisan with no knowledge of the claimed invention to select the elements from the cited prior art references for combination in the manner claimed. Accordingly, we reverse the rejection of claims 15-25 under 35 U.S.C. § 103 as being unpatentable over Benkovic or Janda in view of Lura, Stephenson, Geiger or Kossiakoff.

REVERSED

Toni R. Scheiner	)
Administrative Patent Judge	)
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	)
	) BOARD OF PATENT
Donald E. Adams	)
Administrative Patent Judge	) APPEALS AND
	)
	) INTERFERENCES
	)
Demetra J. Mills	)
Administrative Patent Judge	)

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