

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 31

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte MARJORIE L. WIER

Appeal No. 2001-2027
Application No. 09/059,573¹

HEARD: June 11, 2002

Before SCHEINER, MILLS and GRIMES, Administrative Patent Judges.

SCHEINER, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 1 and 32 through 36, the only claims remaining in the application.

Claim 1 is representative of the subject matter on appeal and reads as follows:

1. A method for detecting activation of lymphocytes comprising the steps of:

incubating a sample containing a mixed population of cell types including a plurality of subsets of lymphocytes where each subset includes lymphocytes with characteristic determinants that distinguish one subset from another, with an inducing agent selected from the group consisting of mitogens and antigens; then

separating a selected subset of lymphocytes from said sample; then

lysing lymphocytes in said selected subset to release an activation-correlated intracellular component selected from the group consisting of ATP, NADP, and PCNA; then

¹ Application for patent filed April 14, 1998. According to appellant, this application is a continuation of serial no. 08/928,392, filed September 12, 1997, now U.S. Patent no. 5,773,232, which is a continuation of serial no. 08/621,878, filed March 26, 1996, now abandoned.

measuring a level of said activation-correlated intracellular component; and
determining activation of lymphocytes for said selected subset of lymphocytes from said level of said activation-correlated intracellular component measured in said measuring step.

The examiner relies on the following references:

Gottlieb	4,778,750	Oct. 18, 1988
Melnicoff et al. (Melnicoff)	5,385,822	Jan. 31, 1995

Ishizaka et al. (Ishizaka), "Evaluation of the Proliferative Response of Lymphocytes by Measurement of Intracellular ATP," Journal of Immunological Methods, Vol. 72, pp. 127-132 (1984)

Claims 1, 32, 33, 35 and 36 stand rejected under 35 U.S.C. § 103 as unpatentable over Ishizaka and Melnicoff, while claim 34 stands rejected as unpatentable over the same references in combination with Gottlieb.

We reverse both of these rejections.

DISCUSSION

The rejection of claims 1, 32, 33, 35 and 36

According to the examiner, Ishizaka describes "a method for evaluating the proliferative response of lymphocytes comprising incubating the lymphocytes with lectins . . . , monokines, lymphokines . . . , and B cell growth factors . . . and measuring ATP levels," while Melnicoff describes "quantifying subsets of lymphocytes within a subpopulation of a mixed cell population," "separating the lymphocytes after incubation with a reporter substance," and "the use of solutions which lyse the separated lymphocytes enabling the measurement of a released product." Examiner's Answer, page 4.

Based on these teachings, the examiner concludes that "[i]t would have been prima facie obvious . . . to modify the method of Ishizaka [] by employing a separation

step after activating lymphocytes and before lysing the specific subset of lymphocytes and measuring the ATP levels as taught by Melnicoff.”² Examiner’s Answer, paper no. 27, page 4.

Appellant, while “not conceded[ing] that combining the cited prior art [is] appropriate in the present case,” asserts that the examiner’s proposed combination would not, in any case, result in “detection of lymphocyte activation.” Amended Brief, paper no. 26, page 7. Appellant argues that the examiner has ignored the “distinct difference between activation and the subsequent proliferation event that is seen following activation” (Id., page 11), and notes that Ishizaka “specifically discloses that the ATP levels observed [were] due to an increase in the number of cells through the proliferative response of the lymphocytes” (Id., page 8), whereas the claims on appeal are directed to measuring “the increase in the level of ATP . . . during the activation event and prior to proliferation” (Id., page 9).

In our view, this argument is not entirely satisfactory. The claims on appeal do not explicitly recite any particular time frame, and it is not clear to us that the recitation “detecting activation” implicitly limits the claims to measurements taken “prior to proliferation.” The record establishes that activation precedes proliferation in a stimulated lymphocyte culture, and that the level of ATP, an “activation-correlated intracellular component,” is elevated during both activation and proliferation. It seems

² The examiner’s statement is somewhat misleading. Ishizaka, not Melnicoff, describes measuring endogenous ATP. Melnicoff measures a detectable reporter substance incorporated by a mixed population of unstimulated cells prior to their separation into subsets and subsequent lysis.

to us that Ishizaka's measurement of ATP necessarily, if indirectly, detects the activation event that precedes proliferation.

Nevertheless, the examiner's statement of rejection, on its face, is inadequate to establish a prima facie case of obviousness. "To prevent the use of hindsight based on the invention . . . the examiner must show reasons that the 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." In re Rouffet, 149 F.3d 1350, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998). This the examiner has not done. That is, the examiner's statement of rejection is entirely conclusory, providing no reasons at all for combining Ishizaka and Melnicoff, much less explaining why one skilled in the art would have selected particular elements from each reference and arranged them in the order required by claims.

Nor are we persuaded by the examiner's belated statement, in response to appellant's arguments in the Brief, that "[o]ne of ordinary skill . . . would have been motivated to separate a specific subset of lymphocytes after incubation in order to be able to assay whole blood and to determine whether or not a particular subset of lymphocytes was activated by the mitogen or antigen." Examiner's Answer, page 8. The examiner's reliance on motivation is misplaced here. It is not enough to assert that one skilled in the art would have been motivated to achieve that which the invention achieves. Again, the examiner must explain why one would have been motivated to select particular elements from particular references and combine them in precisely the manner claimed.

Finally, it is irrelevant whether "[i]t would have been expected, barring evidence to the contrary, that combining the teachings of [Ishizaka and Melnicoff] would result in

an assay which would analyze lymphocytes for lymphocyte activation” (Examiner’s Answer, pages 4-5), when the examiner has not identified a reason to combine the references in the first place.

The fact that the prior art could have been modified in a manner consistent with appellants’ claims would not have made the modification obvious unless the prior art suggested the desirability of the modification. In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). On this record, the only reason or suggestion to combine the references in the manner claimed comes from appellant’s specification. Accordingly, we are constrained to reverse the rejection of claims 1, 32, 33, 35 and 36 under 35 U.S.C. § 103.

The rejection of claim 34

Claim 34 depends from claim 1 and requires a viral, bacterial or fungal inducing agent. The examiner’s proposed combination of Ishizaka and Melnicoff forms the basis of this rejection as well, with the addition of Gottlieb as evidence that it was known in the art “that any particular antigen or mitogen may be used to stimulate a[n] [immune] response.” The addition of Gottlieb does nothing to cure the underlying deficiency in the proposed combination of Ishizaka and Melnicoff, thus, the rejection of claim 34 under 35 U.S.C. § 103 is reversed as well.

REVERSED

Toni R. Scheiner
Administrative Patent Judge

Demetra J. Mills
Administrative Patent Judge

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