

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 56

UNITED STATES PATENT AND TRADEMARK OFFICE

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

Ex parte GERHARD SEEMAN,
KLAUS BOSSLET, and
HANS H. SEDLACEK

Appeal No. 2000-0461
Application No. 08/460,569

ON BRIEF¹

Before ADAMS, MILLS, and GREEN, 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 1-4, 6-9, 11 and 15, which are all the claims pending in the application.

¹ Pursuant to appellants request (Paper No. 51, received November 22, 1999) an oral hearing for this appeal was scheduled for February 21, 2002. However, we note appellants waived (Paper No. 55, received February 12, 2002) their request for oral hearing. Accordingly, we considered this appeal on Brief.

Claim 3 is illustrative of the subject matter on appeal and is reproduced below:

3. An antigenic construct comprising a cytotoxic T cell stimulating allogenic major histocompatibility complex (MHC) class I antigen linked at its C-terminal end to a target-cell-specific carrier molecule.

The references relied upon by the examiner are:

Greenfield et al. (Greenfield)	4,894,443	Jan. 16, 1990
Sharma et al. (Sharma)	5,130,297	Jul. 14, 1992

Liu et al. (Liu), "Hormone Conjugated with Antibody to CD3 Mediates Cytotoxic T Cell Lysis of Human Melanoma Cells," Science, Vol. 239, pp. 395-398 (1988)

Mezzanzanica et al. (Mezzanzanica), "Human Ovarian Carcinoma Lysis by Cytotoxic T Cells Targeted by Bispecific Monoclonal Antibodies: Analysis of the Antibody Components," Int. J. Cancer, Vol. 41, pp. 609-615 (1988)

GROUND OF REJECTION

Claims 1-4, 6-9, 11 and 15 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Sharma and Greenfield, with or without Liu or Mezzanzanica.²

We reverse.

DISCUSSION

According to appellants' specification (page 1) "[t]issue-rejection reactions are the strongest-known immune responses mediated by T cells. In individuals of the same species they are caused by allogenic differences in class I and class II MHC antigens." However, as appellants explain (Brief, page 4) "[a]lthough

² We note that the examiner set forth two prior art rejections: "Claims 1-4, 6-9, 11 and [15 stand rejected under 35 U.S.C. [§] 103(a) as being unpatentable over Sharma ... in view of Greenfield..." (Answer, page 3); and "Claims 1-4, 6-9, 11 and [15 stand rejected under 35 U.S.C. [§]103(a) as being unpatentable over Liu ... or Mezzanzanica ... in view of Sharma ... and further in view of Greenfield..." (Answer, page 5). However, for administrative convenience we have consolidated the two prior art rejections of record into the single statement of the rejection hereinabove.

MHC class I and class II antigens both participate in tissue rejection reactions they interact with different cells of the immune system.” According to appellants (id.), “MHC class II antigens participate in the presentation of antigens to helper T cells. ... Allogenic MHC class I antigens, on the other hand, are recognized by cytotoxic T cells.”

The focal point of this appeal is the difference between the class I and class II MHC antigens. Specifically, the examiner relies on Sharma (Answer, page 3) for a disclosure of “compositions comprising (1) an MHC Class I component and (2) an antibody carrier/effector component.” With reference to Figure 1 and column 4, lines 31-56, the examiner finds (id.), Sharma disclose “that the MHC component may be MHC Class I molecules.” From this the examiner concludes (Answer, page 4), “the MHC I-antibody hybrid molecule disclosed by the [sic] Sharma et al. []meet all the recited structural limitations of the instant claims.”

As the briefings make clear, none of the other references relied upon by the examiner teach MHC molecules. See e.g., (Brief, page 18), “Greenfield is not cited for teaching or suggesting a construct comprising an MHC class I antigen, which, indeed, it does not”; and Brief, page 23 “[t]he Office has admitted that neither Liu nor Mezzanzanica teach a hybrid molecule wherein one component is an MHC molecule.” Therefore, the critical issue presented for our review is whether Sharma provides an enabling disclosure of an MHC class I fusion protein. In this regard, we remind the examiner that in determining whether the claimed invention is obvious, a prior art reference must be read as a

whole and consideration must be given where the reference teaches away from the claimed invention. Akzo N.V., Aramide Maatschappij v.o.f. v. United States Int'l Trade Comm'n, 808 F.2d 1471, 1481, 1 USPQ2d 1241, 1246 (Fed. Cir. 1986).

As the title makes clear, Sharma's invention is directed at MHC-II-peptide conjugates useful in ameliorating autoimmunity. As appellants explain (Brief, pages 13-14):

MHC class II glycoproteins are found on the surfaces of several cells, "and are involved in the presentation of antigens to helper T cells." ... Since Sharma's compositions target helper T cells via a complex of an antigen and an MHC protein, and that MHC protein must function to present antigen to helper T cells, the MHC protein must be a class II protein. ...

In Sharma's complexes for treating autoimmune diseases, the MHC portion of the complex binds to T helper cells ... which leads to the destruction of T helper cells responsible for autoimmunity. If MHC Class I antigen were substituted for the MHC Class II moiety in Sharma's conjugates, the conjugates would be inoperative. MHC Class I does not bind to T helper cells.

The examiner however is not persuaded by appellants' arguments. Instead, the examiner finds (Answer, page 7) that Sharma "is not limited to constructs which downregulate helper T cells in the treatment of autoimmune diseases since the specification of Sharma et al. clearly discloses constructs in which the MHC component is MHC Class I." According to the examiner (id.) Sharma "clearly disclose the MHC component of [the] construct can be either Class I or Class II ([]see [Figure 1 and] column 4, lines 31-column 5, lines 31, in particular).

Appellants agree (Brief, page 13) that Figure 1, "does appear to indicate that MHC class I or II molecules may serve as a component in Sharma's

complex. This solitary indication, however, is contradicted by [the] rest of Sharma's specification, as well as by the claims." With reference to Sharma's figures and the description of the figures, appellants argue (Brief, page 12), "a mistake was made by Sharma when the formal drawings were filed...."

Appellants argue (Brief, page 15), Sharma's prosecution history provides "additional evidence that Sharma's constructs would not work for their intended purpose if they included MHC class I molecules in place of class II molecules...." Appellants also argue that during the prosecution of Sharma's application, the examiner found that "[t]he claims are broadly drawn to MHC components. It is unclear that complexes comprising MHC-I have utility. It is suggested that the claims be limited to MHC-II molecules or that Applicant file evidence of the utility of such bimolecular complexes where the MHC component is MHC-I." According to appellants (Brief, page 16) "Sharma did not present the evidence required by ... [the examiner] to show that the broad claims were enabled. Instead, the claims were 'limited to MHC Class II molecules associated with autoimmune diseases....'"

With regard to the textual portions of the specification (e.g., columns 4 and 5) upon which the examiner relies, we agree with appellants (Brief, page 10) that the disclosure provided in Sharma fails to support the conclusion that Sharma teaches MHC Class I-containing complexes. At best the disclosure found in columns 4 and 5 of Sharma merely provide a description of the MHC class I molecule. In our opinion, when Figure 1 is interpreted in the context of Sharma's disclosure and prosecution history, one of ordinary skill in the art would

have been led away from an MHC class I construct as defined by appellants' claimed invention.

Therefore, based on the evidence before us we are compelled to reverse the rejection of claims 1-4, 6-9, 11 and 15 under 35 U.S.C. § 103 as being unpatentable over the combination of Sharma and Greenfield, with or without Liu or Mezzanzanica. In this regard, we remind the examiner, if the prior art does not teach any specific or significant utility for the disclosed compounds, then the prior art is not sufficient to render structurally similar claims prima facie obvious because there is no motivation for one of ordinary skill in the art to make the reference compounds, much less any structurally related compounds. In re Stemniski, 444 F.2d 581, 586, 170 USPQ 343, 348 (CCPA 1971). On this record, appellants have provided substantial evidence to suggest that a MHC class I construct as defined by their claimed invention would not be useful in treating the autoimmunity as disclosed in Sharma. None of the other references relied upon by the examiner make up for this deficiency in Sharma.

Accordingly, the prior art rejections of record are reversed.

REVERSED

Donald E. Adams)	
Administrative Patent Judge)	
)	
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)	BOARD OF PATENT
Demetra J. Mills)	
Administrative Patent Judge)	APPEALS AND
)	
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Lora M. Green)	
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