

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board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. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WILLIAM S. SIMONET,
HENRI S. LICHENSTEIN
AND DAVID E. LYONS_

Appeal No. 1997-2515
Application No. 08/221,767

ON BRIEF

Before WINTERS, WILLIAM F. SMITH, and ADAMS, 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, 5-8, 21 and 23-29, which are all the claims pending in the application. Claims 2, 3, 4, 9-20 and 22 are canceled.

Claim 1 is illustrative of the subject matter on appeal and is reproduced below:

A nucleic acid sequence comprising the HCR enhancer of SEQ ID NO:1 or a biologically active fragment thereof; operably linked to a promoter and a transgene, wherein the transgene comprises a nucleic acid encoding a polypeptide involved in the immune response, hematopoiesis, inflammation, cell growth and proliferation, cell lineage differentiation, or the stress response, and wherein the promoter is selected from the group of promoters consisting of: ApoA-I, ApoA-II, ApoA-III, ApoA-IV, ApoB-48, ApoB-100, ApoC-I, ApoC-II, ApoC-III, ApoE, albumin, alpha feto protein, PEPCK, transthyretin, SV40, CMV, and TK.

The references relied upon by the examiner are:

Matsushima et al. (Matsushima I), "Molecular Cloning of a Human Monocyte-derived Neutrophil Chemotactic Factor (MDNCF) and the Induction of MDNCF mRNA by Interleukin 1 and Tumor Necrosis Factor," J. Exp. Med., Vol. 167, pp. 1883-893 (1988)

Smith et al. (Smith), "Expression of the Human Apolipoprotein E Gene is Regulated by Multiple Positive and Negative Elements," J. Biol. Chem., Vol. 263, No. 17, pp. 8300-308 (1988)

Finch et al. (Finch), "Human KGF is FGF-related with Properties of a Paracrine Effector of Epithelial Cell Growth," Science, Vol. 245, pp. 752-55 (1989)

Mukaida et al. (Mukaida), "Genomic Structure of the Human Monocyte-derived Neutrophil Chemotactic Factor IL-8," J. Immunology, Vol. 143, pp. 1366-371 (1989)

Simonet et al. (Simonet), "Multiple Tissue-specific Elements Control the Apolipoprotein E/C-I Gene Locus in Transgenic Mice," J. Biol. Chem., Vol. 266, No. 14, pp. 8651-654 (1991)

GROUNDINGS OF REJECTION¹

¹ We note the examiner withdrew the rejection of claims 1-3, 5-18 and 21-29 under 35 U.S.C. § 112, first paragraph; the rejection of claims 28 and 29 under 35 U.S.C. § 112, second paragraph; the rejection of claims 26-29 under 35 U.S.C. § 102(b) as anticipated by or in the alternative under 35 U.S.C. § 103 as obvious over Audesirk et al.; the rejection of claims 1-3, 5, 6, 10-15, 21-24 and 26-29 under 35 U.S.C. § 103 as unpatentable over Smith et al. in view of Chow et al., Mukaida et al. and Gordon et al.; the rejection of claims 1-3, 5, 7, 10-14, 16, 21-23 and 25-29 under 35 U.S.C. § 103 as unpatentable over Smith et al. in view of Chow et al.,

Claims 1, 21 and 26-29 are rejected under 35 U.S.C. § 103 as obvious over Simonet.

Claims 1, 5, 6, 21, 24 and 26-29 are rejected under 35 U.S.C. § 103 as obvious over Smith in view of Simonet and Mukaida.

Claims 1, 5, 7, 21, 23 and 25-29 are rejected under 35 U.S.C. § 103 as obvious over Smith in view of Simonet and Finch.

Claims 1, 5, 8, 21, 23 and 26-29 are rejected under 35 U.S.C. § 103 as obvious over Smith in view of Simonet and Matsushima.

We reverse.

Finch et al. and Gordon; the rejection of claims 1-3, 5, 8, 10-14, 17, 21-23 and 26-29 under 35 U.S.C. § 103 as unpatentable over Smith et al. in view of Chow et al., Matsushima et al. and Gordon et al.; and the rejection of claim 10-18 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103 as obvious over Schmid et al.

DISCUSSION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, and to the respective positions articulated by the appellants and the examiner. We make reference to the examiner's Answer² for the examiner's reasoning in support of the rejection. We further reference appellants' Brief³ for the appellants' arguments in favor of patentability.

THE REJECTIONS UNDER 35 U.S.C. § 103:

The initial burden of presenting a prima facie case of obviousness rests on the examiner. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The examiner relies upon Simonet in each of the art rejections to teach the claimed HCR enhancer. The examiner states (Answer, page 4) that "Simonet et al. disclose DNA constructs comprising the same HCR sequence exemplified in the instant application, operably linked to a promoter and a transgene (constructs CI.361, CI.SE and CI.SC; p. 8652, col. 2 and Fig. 1)." Specifically, Simonet teaches (page 8652, column 2):

[R]egulatory elements controlling expression of the apoC-I gene in the liver, as well as the stomach, are located between 2.3 and 8.0 kb downstream of the apoC-I gene, most likely between the apoC-I gene and the apoC-I' pseudogene. ... we propose that the downstream region controlling hepatic apoC-I gene expression contains an

² Paper No. 24, mailed July 26, 1996.

³ Paper No. 23, received May 21, 1996.

element that acts over a distance of at least 15 kb to stimulate high level expression of the apoE gene in the liver.

The examiner explains (Answer, page 9) that SEQ ID NO:1 “is a 774 nucleotide sequence isolated from the 5,700 nucleotide sequence identified by Simonet et al. as containing a liver specific enhancer element.” However, appellants argue (Brief, page 4) that “the Simonet *et al.* reference does not teach or suggest the HCR enhancer of SEQ ID NO:1, and this enhancer is an essential element of the claimed invention.” Appellants argue (Brief, page 5) that:

[o]ne of ordinary skill in the art could be led to conclude that somewhere along this 5700 nucleotide region of DNA there is a subregion that contributes to ApoE gene expression in the liver. Such conclusion might be an invitation to experiment, but an invitation to experiment, or “obvious to try”, is not the standard for obviousness under 35 USC § 103

The examiner does not find this argument persuasive (Answer, page 10) “because claim 1 recites ‘a nucleic acid sequence comprising the HCR enhancer of SEQ ID NO:1’” [emphasis original]. The examiner reconfirms this construction of the claim (Answer, page 16) in view of “the 5,700 nucleotide fragment disclosed by Simonet et al. This fragment is a ‘nucleic acid sequence comprising the HCR enhancer of SEQ ID NO: 1’ as claimed.”

However, the examiner’s interpretation of claim 1 is incorrect. According to the examiner’s construction of the claim (Answer, page 10), the nucleic acid sequence of claim 1 comprises one element; (1) an HCR enhancer of SEQ ID NO:1. On the

contrary, claim 1 is drawn to a nucleic acid sequence comprising 3 elements; (1) an HCR enhancer of SEQ ID NO:1 or biologically active

fragment thereof operably linked to, (2) a promoter, and (3) a transgene. We remind the examiner that every limitation positively recited in a claim must be given effect in order to determine what subject matter that claim defines.

In re Wilder, 429 F.2d 447, 450, 166 USPQ 545, 548 (CCPA 1970).

Furthermore, the examiner improperly shifts his burden of establishing a prima facie case of obviousness to appellants. The examiner states (Answer, page 10):

Appellant admits [sic] that SEQ ID NO:1 was isolated from the larger sequence disclosed by Simonet et al. Thus the promoter/enhancer constructs of Simonet et al. are sequences which comprise SEQ ID NO:1, and are therefore encompassed by the claims. Even if the claims did not encompass the constructs of Simonet et al., Appellant has [sic] not presented any evidence to suggest that the 774 nucleotide HCR functions any differently when isolated from the remainder of the 5,700 nucleotide fragment disclosed by Simonet et al. Absent any change in the functional characteristics of the HCR, removal of extraneous sequences would have been obvious optimization of parameters, which one of ordinary skill in the art would have carried out in order to reduce the size of the construct (leaving more space in the vector for the transgene of interest) [emphasis original].

However, absent the examiner's impermissible hindsight reconstruction and reliance on appellants' specification, the examiner fails to demonstrate that the specific nucleotide sequence identified as SEQ ID NO:1 is present in the 5,700

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nucleotide sequence of Simonet, and functions as an enhancer as claimed. A
general motivation to search for some gene that exists does not
necessarily make obvious a specifically-defined gene that is subsequently

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obtained as a result of that search. In re Deuel, 51 F.3d 1552, 1558,
34 USPQ2d 1210, 1215 (Fed. Cir. 1995).

Finally, the examiner's statement (Answer, page 10) that "[a]bsent any change in the functional characteristics of the HCR, removal of extraneous sequences would have been obvious optimization of parameters, which one of ordinary skill in the art would have carried out in order to reduce the size of the construct," improperly applies an obvious to try standard to the claimed invention. Obvious to try, is not the standard for determining obviousness under 35 U.S.C. § 103. In re O'Farrell, 853 F.2d 894, 903, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988).

Therefore, in our opinion, the examiner failed to demonstrate that the specific nucleotide sequence identified as SEQ ID NO:1 is present in the 5,700 nucleotide sequence of Simonet and functions as an enhancer as claimed. Accordingly, the examiner failed to meet the limitation of an HCR enhancer of SEQ ID NO:1 or a biologically active fragment thereof.

The examiner's reliance on Smith, Mukaida, Finch and Matsushima fail to make up the deficiencies found in Simonet.

For these reasons the examiner has failed to establish a prima facie case of obviousness. Where the examiner fails to establish a prima facie case, the rejection is improper and will be overturned. In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

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Accordingly, we reverse the examiner's rejection of claims 1, 21 and 26-29 under 35 U.S.C. § 103 as obvious over Simonet; claims 1, 5, 6, 21, 24 and 26-29 under 35 U.S.C. § 103 as obvious over Smith in view of Simonet and Mukaida; claims 1, 5, 7, 21, 23 and 25-29 under 35 U.S.C. § 103 as obvious over Smith in view of Simonet and Finch; and claims 1, 5, 8, 21, 23 and 26-29 under 35 U.S.C. § 103 as obvious over Smith in view of Simonet and Matsushima.

REVERSED

Sherman D. Winters
Administrative Patent Judge

William F. Smith
Administrative Patent Judge

Donald E. Adams
Administrative Patent Judge

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