

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 30

**UNITED STATES PATENT AND TRADEMARK OFFICE**

---

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

---

Ex parte TIMOTHY A. STEWART, and  
YANMEI LU

---

Appeal No. 2003-1417  
Application No. 09/298,404

---

ON BRIEF

---

Before WINTERS, SCHEINER, and GRIMES, Administrative Patent Judges.

GRIMES, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 60-73 and 76-84, all of the claims remaining. Claims 60-62 are representative and read as follows:

60. An antibody which specifically binds to a polypeptide comprising the amino acid sequence of SEQ ID NO:1.
61. An antibody which specifically binds to a polypeptide comprising the amino acid sequence of SEQ ID NO:3.
62. An antibody which specifically binds to a polypeptide comprising the amino acid sequence of SEQ ID NO:5.

The examiner relies on the following references:

Frackelton, Jr. et al. (Frackelton)	4,543,439	Sep. 24, 1985
Ryan et al. (Ryan)	4,544,545	Oct. 1, 1985
Goldenberg	5,120,525	Jun. 9, 1992

Staerz et al. (Staerz), "Hybrid hybridoma producing a bispecific monoclonal antibody that can focus effector T-cell activity," Proc. Natl. Acad. Sci. USA, Vol. 83, pp. 1453-1457 (1986)

Bird et al. (Bird), "Single-Chain Antigen-Binding Proteins, Science, Vol. 242, pp. 423-426 (1988)

Claims 60-73 and 76 stand rejected for obviousness-type double patenting over claims 30-39 and 44 of U.S. Patent 6,326,482.

Claims 60-66, 68, 69, and 71-73 stand rejected under 35 U.S.C. § 102(b) as anticipated by Frackelton.

Claims 60-66, 68-73, and 76-84 stand rejected under 35 U.S.C. § 103 as follows:

- claims 60-62 and 76 as obvious in view of Frackelton;
- claims 60-63, 70, 78, and 81-84 as obvious in view of Frackelton and Bird;
- claims 60-63 and 77-79 as obvious in view of Frackelton and Staerz
- claims 60-63 and 80 as obvious in view of Frackelton and Ryan
- claims 60-63 and 71-73 as obvious in view of Frackelton and Goldenberg.

We affirm the rejection for obviousness-type double patenting but reverse the remaining rejections.

#### Background

"Interactions between ligands and the cognate cell surface receptors are critical for a variety of biological processes. . . . Many of these ligands can activate multiple independent pathways and the strength of the activation of

different pathways can be modulated by the presence or absence of signals generated by other receptors. . . . Adaptor molecules may be critical in integrating multiple signaling cascades and in determining the cell type specific response to extracellular stimuli.” Specification, page 1.

The specification discloses the cloning and characterization of three human cDNAs encoding putative adaptor proteins designated Nsp1, Nsp2, and Nsp3. The amino acid sequences of the Nsp1, Nsp2, and Nsp3 proteins are shown in the specification’s SEQ ID NOs 1, 3, and 5, respectively. The specification discloses that “[s]everal characteristics suggest that Nsp1 could play an important role in modulating the response to external stimuli.” Page 30. One such characteristic is that epidermal growth factor (EGF) “induced a rapid tyrosine phosphorylation of Nsp1 (SEQ ID NO:1).” Page 60.

Among the related products disclosed in the specification are antibodies that bind to the Nsp1, Nsp2, or Nsp3 proteins. See, e.g., pages 4-5 and 41-49. Such antibodies are disclosed to be “promising drug candidates” for inhibiting the production or activity of Nsp1, Nsp2, or Nsp3. See page 41.

#### Discussion

Claims 60, 61, and 62 are directed to “[a]n antibody which specifically binds to” Nsp1, Nsp2, or Nsp3, respectively. The remaining claims depend on one or more of claims 60, 61, or 62.

### 1. Double patenting

The examiner rejected claims 60-73 and 76 under the judicially created doctrine of obviousness-type double patenting, based on claims 30-39 and 44 of U.S. Patent 6,326,482.<sup>1</sup>

Appellants, “[w]ithout necessarily agreeing with the propriety of the outstanding rejection,” Appeal Brief, page 14, have not disputed its merits and have agreed to file a terminal disclaimer to overcome it. See id. Since Appellants has not argued that the rejection is improper, we affirm it.

### 2. Anticipation

The examiner rejected claims 60-66, 68, 69, and 71-73 as anticipated by Frackelton, based on the following reasoning: “Nsp1, Nsp2 and Nsp3 . . . contain phosphotyrosyl residues. The monoclonal antibodies of [Frackelton] have affinity for molecules containing o-phosphotyrosine residues, hence these antibodies would unequivocally bind to polypeptides comprising the amino acid sequences of SEQ ID NO:1-3.” Examiner’s Answer, page 4.

Appellants agree with the examiner that the antibodies disclosed by Frackelton would be expected to bind to Nsp1, Nsp2, and Nsp3, because they would be expected to “bind to any phosphotyrosyl-containing polypeptide.”

---

<sup>1</sup> The ‘482 patent has only twenty-one claims; presumably, the examiner intended to reject the instant claims over the patented claims corresponding to application claims 30-39 and 44.

Appeal Brief, pages 5-6. Appellants point out, however, that the instant claims are directed to antibodies that “specifically bind” to one of Nsp1, Nsp2, Nsp3. Appellants construe this limitation to mean that “the presently claimed antibodies . . . bind to polypeptides comprising the amino acid sequences of SEQ ID NO:1, 3, or 5 and not substantially to any other polypeptides.” Id. (emphasis in original).

The examiner does not dispute this interpretation of the claims. See the Examiner’s Answer, page 9: “The record reflects that the Examiner concurred with Appellants’ definition of ‘specifically binds’. . . . The term was defined as the binding of an antibody to a particular polypeptide and the antibody binds to that particular polypeptide but does not substantially bind to any other polypeptide.”

“Under 35 U.S.C. § 102, every limitation of a claim must identically appear in a single prior art reference for it to anticipate the claim.” Gechter v. Davidson, 116 F.3d 1454, 1457, 43 USPQ2d 1030, 1032 (Fed. Cir. 1997). When construing claim language, “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).

Here, the examiner and Appellants agree that the claims are limited to antibodies that “specifically” bind to Nsp1 (claim 60), Nsp2 (claim 61), or Nsp3 (claim 62), and they agree on the interpretation of that limitation: the antibodies bind to the recited polypeptide “and not substantially to any other polypeptides.” Appeal Brief, page 6; see also Examiner’s Answer, page 9.

We agree with Appellants that, under the agreed-upon claim construction, Frackelton does not anticipate the instant claims. In a nutshell, since “specific” binding requires binding to a single, specified protein without substantial binding to other proteins, and since Frackelton’s antibodies would be expected to bind to all of the Nsp1, Nsp2, and Nsp3 proteins, it follows ineluctably that Frackelton’s antibodies do not bind “specifically” to any of Nsp1, Nsp2, or Nsp3. That is, any antibody that binds to all three proteins does not bind “specifically” to any of them.

The examiner argues that Appellants’ “definition does not preclude that the antibodies of Frackelton et al. would not specifically bind to Appellants’ proteins denoted as SEQ ID NO:1, 3 and 5, which contain phosphotyrosyl residues while not binding other polypeptides lacking phosphotyrosyl residues.” Examiner’s Answer, pages 9-10.

The examiner’s statement of her position, however, reveals the fault in her logic: the claims are not directed to antibodies that “specifically” bind one class of proteins (e.g., proteins containing phosphotyrosyl residues) and not other classes. Each of claims 60, 61, and 62 is directed to an antibody that “specifically” binds to one, particular polypeptide, defined by its amino acid sequence. According to both Appellants and the examiner, that limitation

requires binding to the specified polypeptide without substantial binding to any other polypeptide. Thus, any antibody that binds to each of Nsp1, Nsp2, and Nsp3 is outside the scope of claims 60, 61, and 62. The rejection for anticipation is reversed.

### 3. Obviousness

The examiner rejected most of the claims as obvious over the prior art. Each of the obviousness rejections was based on the examiner's position that Frackelton disclosed antibodies meeting all the limitations of the independent claims. However, we have concluded that Frackelton does not disclose antibodies that specifically bind Nsp1, Nsp2, or Nsp3. The examiner has pointed to nothing in the secondary references that would meet this limitation of the claims. We therefore reverse the rejections based on 35 U.S.C. § 103.

### Summary

The prior art relied on by the examiner does not teach antibodies that specifically bind to SEQ ID NO:1, SEQ ID NO:3, or SEQ ID NO:5 (Nsp1, Nsp2, or Nsp3, respectively). We therefore reverse the rejections for anticipation and obviousness. However, we affirm the rejection for obviousness-type double patenting.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED IN PART

Sherman D. Winters	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
Toni R. Scheiner	)	
Administrative Patent Judge	)	APPEALS AND
	)	
	)	INTERFERENCES
	)	
Eric Grimes	)	
Administrative Patent Judge	)	

EG/jlb

Appeal No. 2003-1417  
Application No. 09/298,404

Page 9

Genentech, Inc.  
1 DNA Way  
South San Francisco, CA 94080