VOSSIUS & PARTNER

Postal Address: P. O. Box 86 07 67 81634 München Germany

To the
European Patent Office

80298 Munich

PATENTANWÄLTE
EUROPEAN PATENT ATTORNEYS
Dr. VOLKER VOSSIUS, Dipl.-Chem. (-6/1992)
Dr. PAUL TAUCHNER, Dipl.-Chem.
Dr. DIETER HEUNEMANN, Dipl.-Phys.
Dr. PETER A. RAUH, Dipl.-Chem.
Dr. GERHARD HERMANN, Dipl.-Phys.
JOSEF SCHMIDT, Dipl.-Ing.
Dr. HANS-RAINER JAENICHEN, Dipl.-Biol.
Dr. ALEXA VON UEXKÜLL, M.Sc.
Dr. RUDOLF WEINBERGER, Dipl.-Chem.
Dr. WOLFGANG BUBLAK, Dipl.-Chem.
EUROPEAN PATENT ATTORNEY
Dr. RENATE BARTH, Dipl.-Chem.
RECHTSANWÄLTIN
HELGA TREMMEL

SIEBERTSTRASSE 4
81675 MÜNCHEN
GERMANY
TELEPHONE: (089) 47 40 75
CABLE: BENZOLPATENT MÜNCHEN
TELEX: 529 453 VOPAT D
TELEFAX: (089) 4 70 60 53

Enlo Off.

84 10 0836.0-2105/0117440
Enzo Biochem Inc.
Our ref.: S 808 EP

December 28, 1994
Ba/Fr

The following observations are made by the Patentee in response to the oppositions filed by Boehringer (Opponent I) on December 23, 1993 and the opposition filed by Biotest (Opponent II) on January 3, 1994:

1. The references cited during the opposition proceedings

The following references were cited by Opponent I (O1 to O12) and Opponent II (D1 to D6):

U.S. Patent No. 4,358,535 (O1)

Clinica Chimica Acta 81: 1-40 (1977) (O2)

Proc. Natl. Acad. Sci USA vol. 78, pp. 6633-6637, November 1981 (O3)

Proc. Natl. Acad. Sci. USA. vol. 79, pp. 7331-7335, December 1982 (O4)

Proc. Natl. Acad. Sci. USA vol., 79, pp. 4381-4385, July 1992 (O5)

DOCKET ALARM
Find authenticated court documents without watermarks at docketalarm.com.

Proc. Natl. Acad. Sci. USA, vol. 80, pp. 4045-4049, July 1983 (O6)

EP-A-0 063 879 (O7)

DE-A-29 15 082 (O8)

DE-A-27 24 486 (O9)

US-A-4,271,140 (O10)

Journal of Histochemistry and Cytochemistry Vol. 27, 8, 1131-1139 (1979) (O11)

Biochemie 1972, 54, 837-842 (O12)

EPA-82301804.9 (D1)

EPA-82303701.5 (D2)

US-Patent No. 4,358,535 (D3)

Exp. Cell Res. 128 (1980), pp. 485-490, J. Bauman et al., "A new method for fluorescence microscopical localization of specific DNA sequences by in situ hybridization of fluorochrome-labeled RNA" (D4)

GB-A-2,019,408 (D5)

GB-A-2,026,690 (D6)

O1 is identical to D3 and O7 is identical to D1.

2. The subject matter of EP-B-117 440

2.1. The technical problem underlying the present invention is to provide a method for detecting a polynucleotide sequence.

The solution is achieved by a method whereby the sequence is fixed to a solid support in a non-porous, transparent or translucent system, a hybrid is formed between the sequence and a polynucleotide probe having a chemical label which comprises a signalling moiety capable of generating a soluble signal, directly or indirectly, and the soluble signal is generated and

DOCKET ALARM Find authenticated court documents without watermarks at docketalarm.com.

detected. The essential features of the claimed process are outlined in claim 1 which reads as follows:

"A method for detecting a polynucleotide sequence which comprises:

- fixing said polynucleotide sequence to a solid support which comprises or is contained within a transparent or translucent system, such that the polynucleotide is in a single-strand form and is capable of hybridizing to complementary nucleic acid sequences;
- forming an entity comprising said polynucleotide sequence hybridized to a polynucleotide or oligonucleotide probe, said probe having attached thereto a chemical label comprising a signalling moiety capable of generating a signal; and
- generating and detecting a signal, characterized in that the transparent or translucent system is a non-porous system and the generated signal is a soluble signal."

Dependent claims 2 to 16 and 20 to 25 are directed to specific embodiments of features of claim 1.

Claims 17 to 19 are directed to a device and a kit, respectively, to be used in the method of claim 1.

Claim 26 is directed to a transparent or translucent solid, non-porous substrate, and reads as follows:

"A transparent or translucent solid, non-porous substrate having fixed thereto a double-stranded polynucleotide, one of the strands of said double-stranded polynucleotide being a non-radioactive chemically labelled polynucleotide or comprising a non-radioactive chemically-labelled nucleotide as a nucleotide component of said one strand, wherein said

DOCKET ALARM Find authenticated court documents without watermarks at docketalarm.com.

chemically labelled polynucleotide comprises or has attached thereto a chemical label comprising a signalling moiety which generates a soluble signal which is detected spectrophotometrically."

Claims 27 to 28 are specific embodiments of the subject matter of claim 26.

Claim 29 is also directed to a method for detecting a polynucleotide sequence and comprises the following steps:

- fixing a polynucleotide or oligonucleotide probe which has attached thereto a chemical label comprising a signalling moiety capable of generating a signal to a solid support which comprises or is contained within a transparent or translucent system such that said probe is in single-stranded form and is capable of hybridizing to complementary nucleic acid sequences;
- forming an entity comprising said probe hybridized to said polynucleotide sequence, and,
- generating and detecting a signal, characterized in that the transparent or translucent system is non-porous and the generated signal is a soluble signal.

3. The patentability of the subject matter of the patent in suit

3.1. The Opponents, Boehringer (Opponent I) and Biotest (Opponent II), maintain that the present patent is unpatentable over the prior art for the same reasons that were considered and dismissed during the prosecution of the present patent and its corresponding US Patent. The references cited by the Opponents are either identical to or less relevant than the

DOCKET ALARM Find authenticated court documents without watermarks at docketalarm.com.

references cited and considered by the Examining Division during substantive examination. The references were overcome by Patentee's arguments and amendments to the claims and found not to stand in the way of the patentability of the invention. Essentially, Opponents are re-raising and re-arguing prior art work that was distinguished to the satisfaction of the European and US Patent Examiners.

Specifically, both opponents cited the work of David Ward and rely heavily on articles published by him and his colleagues to support their arguments that the claimed invention is unpatentable. In fact, Opponent's I entire argument is based on David Ward's work since all the primary references cited by this Opponent for both lack of novelty and inventive step were authored or co-authored by David Ward. See Opponent's I opposition papers and cited references O3, O4, O5, O6 and O7. Likewise, Opponent II cites the European patent application wherein David Ward is named as an inventor, see D1 of Opponent's II enclosures, as does Opponent I (see reference O7); a reference that was considered repeatedly during prosecution of the contested patent.

David Ward's work led to the discovery that nucleic acids could be labelled in positions that do not interfere with the hybridization ability of the acids. The inventive aspects of this work are best described by European patent EP 63,879 and U.S. Patent No. 5,328,824, of which patentee is the exclusive licensee. Patentee's licensee status as to the Ward patents give it a thorough and unique understanding of the work and the cited Ward, et al., publications.

The Ward articles teach nucleic acid probes labelled in non-destructive positions which can be used to hybridize to specific target sequences of nucleic

DOCKET ALARM Find authenticated court documents without watermarks at docketalarm.com.

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.