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**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**Trademark Trial and Appeal Board**

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In re Epigenomics AG<sup>1</sup>

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Serial No. 76089226

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Edward M. Kriegsman of Kriegsman & Kriegsman for  
Epigenomics AG.

Glenn Clark, Trademark Examining Attorney, Law Office 115  
(Tomas V. Vlcek, Managing Attorney).

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Before Hairston, Drost, and Zervas, Administrative  
Trademark Judges.

Opinion by Drost, Administrative Trademark Judge:

On July 14, 2000, Epigenomics AG (applicant) applied  
to register the mark 5TH BASE GENOMICS, in standard  
character form, on the Principal Register for the following  
goods and services:

Diagnostic reagents for scientific purposes including  
forensic examination; diagnostic test kits for  
scientific purposes, consisting of reagents, working

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<sup>1</sup> The application was originally filed by Epigenomics GmbH and a  
change of name to Epigenomics AG was subsequently recorded at  
Reel/Frame No. 2699/0960.

solutions, plasters, namely, adhesive tape, slides and solid matrix material, all sold together as a unit in Class 1.

Diagnostic reagents for medical purposes for diagnosing inflammations, infections, diseases of the central nervous system, heart, circulation, neurologic, endocrine, autoimmune and genetic diseases and cancers, consisting of reagents, working solutions, plasters, namely, adhesive tape, slides and solid matrix material, all sold together as a unit; medical diagnostic comprising reagents, working solutions, plasters, namely, adhesive tape, slides and solid matrix material, all sold together as a unit, for determining the presence of pathogens in the environment in Class 5.

Laboratory equipment, namely, an apparatus for testing a sample, for demonstrating the presence of analytical elements in samples and to determine types of samples in connection with distribution patterns and an apparatus for the production of a series of mole biological data and parts thereof in Class 9.

Providing multiple-user access to the Internet in Class 38.

Research and development services for third parties in the field of diagnostic chemicals, forensic methods, compositions and devices, measuring apparatuses for use in product research and development, in methods for preparation and purification in water treatment plants; methods for testing the environment and determining industrial quality; chemical separation analysis and diagnosis, forensic and medical genetics testing for third parties; computer programming for others in the field of data processing; computer services, namely, providing a searchable database in the field of DNA-related data on a global computer network in Class 42.

The application is based on applicant's claim of priority under 15 U.S.C. § 1126(d) because of its ownership of German application No. 300 04 091.1/42 filed January 14,

2000, and on its ownership of German registration No. 300 04 091 issued April 17, 2000.

The examining attorney refused registration on the ground that the mark was merely descriptive under Section 2(e)(1) of the Trademark Act, 15 U.S.C. § 1052(e)(1), because:

The term "5TH BASE" is a commonly used term in the field of genomics. Based on the information provided in the applicant's web site, it is clear that the term "5TH BASE" immediately names and describes a specific molecule, methylated cytosine ("mC"), that forms DNA and RNA molecules. The applicant's goods and services will be used to modify or change this "5TH BASE" in the DNA to treat certain complex diseases to which the identified goods and services relate.

Brief at 5.

Applicant, in turn, argues (Brief at 6):

Applicant notes, for example, that none of the recited goods contains "5<sup>th</sup> bases."

Similarly, with respect to the term "genomics," the Trademark Examining Attorney has failed to explain how "genomics" conveys anything meaningful about the recited goods and services. At best, all the Trademark Examining Attorney has done is to conclude that the recited goods and services "will be used in the field of 'genomics.'"

Applicant notes that none of the search results provided by the Trademark Examining Attorney have disclosed the mark, **as a whole**, or have shown the mark, as a whole, being used to describe the recited goods/services.

In addition, Applicant notes that, to the best of its knowledge, 5TH BASE GENOMICS is being used exclusively by Applicant.

When the examining attorney made the refusal final, applicant appealed to this board.

A "mark is merely descriptive if the ultimate consumers immediately associate it with a quality or characteristic of the product or service." In re MBNA America Bank N.A., 340 F.3d 1328, 67 USPQ2d 1778, 1780 (Fed. Cir. 2003). See also In re Gyulay, 820 F.2d 1216, 3 USPQ2d 1009, 1009 (Fed. Cir. 1987); In re Quik-Print Copy Shops, Inc., 616 F.2d 523, 205 USPQ 505, 507 (CCPA 1980). We consider descriptiveness of a mark in the context of the particular goods or services for which registration is sought and not in the abstract. In re Abcor Dev. Corp., 588 F.2d 811, 200 USPQ 215, 218 (CCPA 1978). A mark need only describe a single significant quality or property of the goods in order to be descriptive. Gyulay, 3 USPQ2d at 1009. In addition, we must consider the mark in its entirety. P.D. Beckwith, Inc. v. Commissioner, 252 U.S. 538, 545-46 (1920). However, "[i]t is perfectly acceptable to separate a compound mark and discuss the implications of each part thereof ... provided that the ultimate determination is made on the basis of the mark in its entirety." In re Hester Industries, Inc., 230 USPQ 797, 798 n.5 (TTAB 1986).

We begin our discussion of the descriptiveness issue by considering the evidence that the examining attorney has made of record. The examining attorney has included a definition of "genomic" as "Genetics. Of or relating to the genome." *Academy Press Dictionary of Science and Technology*. First Office Action, attachment. The examining attorney also included evidence from the Internet concerning the term "Genomics."

*Cambridge Healthtech Institute's Fifth Annual Impact of Genomics on Medicine [2002 Program]... Genomic information is being applied as a critical component of drug development strategies for identifying therapeutic targets and for mapping out pathways of genes and proteins to gain a comprehensive view of biology. This meeting will look into the technologies underlying proteomics, gene expression, and functional genomics as well as applying genomics to overall strategies in drug discovery.*

The examining attorney also submitted numerous trademark registrations in which the word "genomics" was used in the identification of goods and services or in which either the term "genomics" is disclaimed or the mark is registered on the Supplemental Register. "Such third party registrations show the sense in which the word is used in ordinary parlance and may show that a particular term has descriptive significance as applied to certain goods or services." Institut National Des Appellations D'Origine v. Vintners International Company, 958 F.2d 1574,

22 USPQ2d 1190, 1196 (Fed. Cir. 1992). Several examples are set out below.

Registration No. 2,644,582 - INVERSE GENOMICS ("Genomics" disclaimed) for, inter alia, scientific research and development relating to the discovery and validating of drug target genes

Registration No. 2,737,705 - BEYOND GENOMICS ("Genomics" disclaimed) for, inter alia, chemicals and software for use in genomics

Registration No. 2,694,203 - GENOMICSCOLLABORATIVE (Supplemental Register) for, inter alia, collecting and storing biological samples in the field of genomics

Registration No. 2,637,715 - PHYSIOLOGICAL GENOMICS (Supplemental Register) for, inter alia, publications in the field of genomics

Registration No. 2,384,178 - ORION GENOMICS LLC and design ("Genomics LLC" disclaimed) for, inter alia, consultation and research services in the field of structural and functional genomics

Registration No. 2,475,197 - WE TAKE GENOMICS PERSONALLY. ("Genomics" disclaimed) for, inter alia, genomic and bioinformatics services

Registration No. 2,348,435 - CG CLEVELAND GENOMICS and design ("Cleveland Genomics" disclaimed) for DNA sequencing

Registration No. 2,193,432 - APOCOM CLIENT TOOL FOR GENOMICS (ACTG) ("Client Tool for Genomics (ACTG)" disclaimed) for computer software for locating genes for DNA sequencing

We also note that, from applicant's website, the following definitions were provided:

Genome:

The genome is the total DNA of a species. Since all the DNA is wrapped up in chromosomes, the number of

chromosomes is characteristic for a species, for example 23 in humans.

Genomics:

The science and commercial exploitation of genomes and the function of genes.

Furthermore, applicant is described as follows

(<http://informagen.com>):

Epigenomics is a young, growth-oriented biotech company, offering a unique technology platform. Epigenomics aims at introducing the first routine diagnostics based on molecular biology for complex genetic disease into clinical reality on a global scale. Epigenomics pioneers the massive collection of epigenetic information for a description of cells and individuals by 'digital phenotypes.' With its technology Epigenomics will be a leader in the revolution towards tomorrow's personalized medicine.

Therefore, the evidence shows that applicant is operating in the field of genomics to the extent that its goods and services use, locate, or develop a database of genomic information.

Regarding the term "Fifth Base" or its numerical equivalent "5TH Base," the examining attorney has supplied several references to explain that the term 5TH Base is merely descriptive. At the EpiGenx Pharmaceuticals website under "EpiGenx in the News," there is an entry entitled "Epigenetics, Methylation, and DNA's mysterious 5<sup>th</sup> base" that goes on to explain: "Epigenetic mechanisms are implicated ... DNA methylation holds the key to understanding these changes."

The Glossary section from applicant's website contains the following information:

5th BASE genomics®

Cytosine, one of DNA's four bases, can also be present in a methylated version (mC). It then has an important impact on gene activity, which is why it is being acknowledged as DNA's fifth base. Each cell contains the entire genome, but only uses a subset of it according to its function (e.g., a liver cell switches on different genes than a skin cell). In complex genetic diseases such as cancer, cardiovascular, or autoimmune, different genes are active than in healthy cells, with each disease featuring a characteristic pattern of active and inactive cells. Reading the pattern of mC in DNA in the first place and correlating it to disease is what we named 5th BASE genomics® and what opens up fundamentally new diagnostics and therapeutic opportunities.

DNA (Desoxyribonucleic acid):

The carrier of genetic information for all complex organisms. DNA is shaped like a twisted step-ladder - the famous "double helix." The genetic information consists of nucleotide bases bound to a sugar-phosphate-backbone and is carried on the rungs of the ladder. As yet, only four bases were known: adenine (A), cytosine (C), guanine (G); [and] thymidine (T). Now, it is becoming clear that there is a fifth: When a methyl group is bound to C, cytosine, a very different base is produced with a dramatic effect on gene activity.

DNA-Methylation:

The DNA consists of the bases A, T, G, and C that encode an organism's genetic blueprint, but also the 5<sup>th</sup> base mC (methylated C), DNA methylation provides information on gene regulation that is specific for cell types and diseases, because cells can actively exchange C with mC when they switch genes off or on.

Epigenetic:

Unlike conventional belief, human DNA consists of 5 different bases: A, T, G, C, and the 5<sup>th</sup> base, methylated cytosine "mC."

The examining attorney also submitted the following excerpts from electronic databases.

The drug is known for its ability to keep DNA undermethylated. Methyl groups are known for their ability to keep genes turned off. In fact, of the four nucleic-acid bases - adenine, cytosine, guanine, and thymine - only cytosine accepts methyl groups and the resulting 5-methylcytosine is considered the "fifth base" in DNA.

*McGraw-Hill's Biotechnology Newswatch*, January 17, 1983

A little-known and long-neglected component of DNA is the focus of recently intensified research - looking for keys to cancer, tissue regeneration, cell differentiation, and gene control. It's "the fifth base" on the DNA double helix, says Arthur D. Riggs, who heads up the biology department at the City of Hope National Medical Center here...

A fifth base, he recalls, is 5-methylcytosine (5-MeC), a variant of cytosine that makes up about 1% of the nucleotides in mammalian DNA. This minor base was first described in 1950 by Gerald R. Wyatt, a Canadian agricultural researcher...

Altering a cell's expression by thus preventing formation of its "fifth base," 5-MeC, may some day have important effects on cancer and tissue regeneration in humans.

*McGraw-Hill's Biotechnology Newswatch*, January 4, 1982

Besides modulating specific DNA-protein interactions, methylated cytosine, frequently referred to as the fifth base of the genome, also influences DNA structure, recombination, repair, imprinting, and mutagenesis.

*J Biol Chem*, Aug 4, 1995 (MEDLINE Database)

The existence in eukaryotes of a fifth base, 5-methylcytosine, and of tissue-specific methylation patterns have been known for many years, but except for a general association with inactive genes and chromatin the exact function of this DNA modification has been elusive. The different hypotheses regarding the role of DNA methylation in regulation of gene

expression, chromatin structure, development, and diseases, including cancer are summarized, and the experimental evidence for them is discussed. *Experienta* Dec. 1, 1991 (MEDLINE database)

From this evidence, we draw the following conclusions. First, the term "genomics" is a commonly used term that describes the exploitation of genes in the field of biotechnology, which is the field in which applicant operates. See Applicant's website included with Office action dated November 22, 2002. See also, "*Impact of Genomics on Medicine [2002 Program]*... Genomic information is being applied as a critical component of drug development strategies for identifying therapeutic targets and for mapping out pathways of genes and proteins to gain a comprehensive view of biology." The numerous registrations of record show that "genomics" is a term that is commonly disclaimed or registered on the Supplemental Register for goods and services in the area of biotechnology.

Second, the evidence of record shows that the term 5TH BASE is a merely descriptive term in the field of biotechnology. The term certainly was used prior to any date associated with applicant. One article indicates that the "Fifth base" was first described in 1950 by a Canadian researcher and articles between 1982 and 1995 refer to the

"Fifth Base." These articles describe the "Fifth Base" in a similar way that applicant's website does, i.e., as a methylated version of cytosine. Cytosine, along with adenine, guanine, and thymine, are the four bases normally associated with DNA.

Third, we likewise find that when the terms are combined in the term 5TH BASE GENOMICS, the combined term is equally descriptive. "Methyl groups are known for their ability to keep genes turned off. In fact, of the four nucleic-acid bases - adenine, cytosine, guanine, and thymine - only cytosine accepts methyl groups and the resulting 5-methylcytosine is considered the 'fifth base' in DNA." *McGraw-Hill's Biotechnology Newswatch*, January 17, 1983. Applicant's website (emphasis added) similarly touts the same quality: "DNA methylation provides information on gene regulation that is specific for cell types and diseases, because cells can actively exchange C with mC *when they switch genes off or on.*" Furthermore, these "DNA methylation signals, comparable to a switch turning on or off individual genes, can be digitized to create a unique fingerprint for each cell." *Impacts of Genomics on Medicine*, Description of remarks by Dr. Alexander Olek, *Epigenomics*, p.8. Obviously, to the extent that applicant is involved with the science and commercial

exploitation of the human genome and the function of genes that involve using methylated cytosine (the Fifth Base) the term would immediately describe its goods and services.

At this point we note that it is simply not sufficient to find that the term for which registration is sought is descriptive of something. We must, of course, consider the mark for which applicant seeks registration in relation to the goods and services set out in the application. The examining attorney makes the following argument (Brief at 10) regarding the mark in relation to the goods and services:

The applicant will be marketing and developing novel diagnostic and pharmacodiagnostic products based on DNA methylation. These novel diagnostic and pharmacodiagnostic products are clearly the goods that are identified in International Classes 1 and 5. The laboratory goods are described in International Class 9, which will be used to develop and research the diagnostic and pharmacodiagnostic products. The word "genomics" also describes the functions, features, uses and subject matter of the applicant's communication services in International Class 38 and research and development services in International Class 42.

The examining attorney concludes (Brief at 12) by arguing that the "combination simply results in a term that is readily understood: the science and commercial exploitation of genomes and the functions of genes regarding DNA's fifth base, methylated cytosine. As such, the term sought to be registered, 5TH BASE GENOMICS,

immediately describes the salient functions, features, uses and purposes of the relevant goods and services."

We agree that the term 5TH BASE GENOMICS is merely descriptive of goods and services that are in the field of genomics and that involve locating, testing for, or using DNA methylation patterns. The term would describe applicant's medical and scientific reagents, laboratory equipment and testing services in Classes 1, 5, 9, and 42 to the extent that they detect or interpret DNA methylation patterns. The presence of methylated cytosine, the fifth base, is significant because of its possible role in such areas as cancer research, tissue regeneration, cell differentiation, and gene control. Therefore, the term 5TH BASE GENOMICS would describe a significant feature of applicant's goods and services in Classes 1, 5, 9, and 42.

However, we reach the opposite conclusion for the services of providing multiple-user access to the Internet in Class 38. Viewing the mark 5TH BASE GENOMICS in the context of providing users access to the Internet, we are unable to determine what characteristic, quality, or feature of the services in Class 38, the term would describe. The examining attorney does not point to specific evidence to show that providing access for multiple-users to the Internet is described by the term 5TH

BASE GENOMICS. The Internet can be used to research virtually any topic. It would require some thought to understand that the term 5TH BASE GENOMICS for providing multiple-users access to the Internet described providing these users access to the Internet for research that may include the subject matter of 5TH Base Genomics.

Therefore, the examining attorney's refusal regarding the services in Class 38 is reversed.

One final point we make is that even though applicant may be the first or only user of the term, this does not mean that the term is not merely descriptive. In re Interco Inc., 29 USPQ2d 2037, 2039 (TTAB 1993) ("[W]e observe that even if applicant has been the first and/or, unlike its competitors, is presently the only user of the term 'LIGHTWEIGHTS' in connection with shoes, such fact cannot alter the merely descriptive significance of the term").

Decision: The refusal to register under Section 2(e)(1) is reversed regarding the services in Class 38. The refusal to register under Section 2(e)(1) regarding the goods and services in Classes 1, 5, 9, and 42 is affirmed.