

The FDA Safe Harbor Provision After *Proveris*

Adam Sibley

Abstract

The “FDA safe harbor provision,” enacted as part of the Hatch-Waxman Act and codified at 35 U.S.C. § 271(a), excepts from infringement uses of patented inventions that are solely and reasonably related to submissions to the FDA. Over the past twenty years, the Supreme Court has broadened this safe harbor to include medical devices and upstream research, in cases such as *Eli Lilly v. Medtronic*, 496 U.S. 661 (1990), and *Merck KGaA v. Integra Lifesciences I*, 545 U.S. 193 (2005). Throughout this broadening evolution, the Supreme Court has fashioned analytical tests as well as specific definitions for various applicable terms, such as “patented invention.” However, in August 2008, the Federal Circuit brought an abrupt halt to this trend in its decision in *Proveris Scientific Corp. v. Innovasystems, Inc.*, 536 F.3d 1256 (Fed. Cir. 2008). Although the result in *Proveris* might well be correct, the opinion displays obvious tensions with Supreme Court precedent and leaves many questions unanswered.

Table of Contents

Introduction.....	37
Part I: Statutory Experimental Use Exception	39
Eli Lilly & Co. v. Medtronic, Inc.....	44
Merck KGaA v. Integra Lifesciences I.....	46
Part II: Analysis of <i>Proveris Scientific Corp. v. Innovasystems, Inc.</i>	48
Part III: Recommendations	54

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Adam Sibley¹

Introduction

In the United States, a patent offers its holder a negative right to exclude others from practicing the encompassed invention.² However, over the years, both Congress and the courts have allowed various non-licensed uses of patented inventions and have excepted³ these actions from infringement.⁴

One exception to infringement is known as the Food and Drug Administration Safe Harbor (“FDA safe harbor”) and is embodied in the Hatch Waxman Act.⁵ Since the Act’s enactment in 1984, the courts have seemingly broadened the statute’s scope of applicability to

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² 35 U.S.C. § 154(a)(1) (2006) (granting, in part, “the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States[.]”); JANICE M. MUELLER, AN INTRODUCTION TO PATENT LAW 14 (2nd ed. 2006).

³ Courts and commentators have interchangeably labeled this exclusion as either an exception or an exemption. *See* *Madey v. Duke Univ.*, 307 F.3d 1351, 1361 (Fed. Cir. 2002) (“[W]e have referred to the defense [to infringement] in a variety of ways.”); *see also* Denise W. DeFranco, *The Experimental Use Exception: Looking Towards a Legislative Alternative*, 6 J. HIGH TECH. L. 93, 97-98 n.4 (2006) (electing to consistently use “exception”). Similarly to the DeFranco article, this paper will refer to the defense as an exception.

⁴ Infringement is described in 35 U.S.C. § 271(a) (2006) (“Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.”).

⁵ Codified in part at 35 U.S.C. § 271(e)(1) (2006) (excepting from infringement activities that are “solely for uses reasonably related to the development and submission of information under a Federal law which regulates the manufacture, use, or sale of drugs or veterinary biological products”).

include various upstream drug testing and medical devices⁶. Nevertheless, this trend of expansion came to an abrupt halt in August 2008 when the United States Court of Appeals for the Federal Circuit (“Federal Circuit”)⁷ handed down its ruling in *Proveris Scientific Corp. v. Innovasystems, Inc.*⁸ This holding restricted the applicability of the FDA safe harbor to only except infringement on those devices that are subject to a required approval process under the Federal Food Drug and Cosmetic Act (FDCA).⁹

While the end result of *Proveris* may be reasonable, the holding leaves many questions unanswered. Since many research tools¹⁰ are not subject to FDCA approval, does *Proveris*

⁶ 21 U.S.C. § 321(h) (2006) (defining a device as “an instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent, or other similar or related article, including any component, part, or accessory, which is—(1) recognized in the official National Formulary, or the United States Pharmacopeia, or any supplement to them, (2) intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease, in man or other animals, or (3) intended to affect the structure or any function of the body of man or other animals, and which does not achieve its primary intended purposes through chemical action within or on the body of man or other animals and which is not dependent upon being metabolized for the achievement of its primary intended purposes”).

⁷ The Federal Circuit, amongst the Circuit Courts of Appeal, has sole appellate jurisdiction for patent cases. *See* 28 U.S.C. § 1295(a)(1), (a)(4)(A), (a)(6) (2006) (granting the Federal Circuit exclusive jurisdiction over appeals from district court cases arising under 28 U.S.C. § 1338, appeals from the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office, and review of determinations from the United States International Trade Commission); 28 U.S.C. § 1338 (2006) (noting that federal district courts have original jurisdiction for cases arising under the patent laws).

⁸ *Proveris Scientific Corp. v. Innovasystems, Inc.*, 536 F.3d 1256 (Fed. Cir. 2008).

⁹ The FDCA is a federal law that regulates the manufacture, use or sale of drugs and other products. 21 U.S.C. §§ 301-399a, 355(a) (2006).

¹⁰ Principles and Guidelines for Recipients of NIH Research Grants and Contracts on Obtaining and Disseminating Biomedical Research Resources, 64 Fed. Reg. 72,090, 72,092 n.1 (Dec. 23, 1999) (final notice) (defining research tools as “tools that scientists use in the laboratory, including cell lines monoclonal antibodies, reagents, animal models, growth factors, combinatorial chemistry and DNA libraries, clones and cloning tools (such as PCR), methods, laboratory equipment and machines”); *Integra Lifesciences I, Ltd. v. Merck KGaA*, 331 F.3d 860

preclude most research tools from the safe harbor provision? What if a research tool is subject to FDCA approval, but is merely used as a research tool and not for its FDCA use? Was this holding merely fact-specific, and would an entity be excepted under the safe harbor if it made an infringing device for solely in-house use (and not for sale as that in *Proveris*)? In order to answer these and other questions, the courts will either need to make the test laid out in *Proveris* more robust, or resort back to a more flexible analysis.

Thus, this paper will discuss the present state of the FDA safe harbor and its applicability. Part I will discuss the statutory exception in the Hatch Waxman Act and its interpretation by the courts. Part II will present an analysis of the recent Federal Circuit case, *Proveris Scientific Corp. v. Innovasystems, Inc.*¹¹ Part III will offer recommendations and suggestions on how the courts should approach future cases under the FDA safe harbor provision.

Part I: Statutory Experimental Use Exception

At the present time, when a drug manufacturer wishes to commercialize a generic drug, it may file an abbreviated new drug application (ANDA) with the Food and Drug Administration (FDA).¹² As a result, the generic drug maker is not required to show the safety and efficacy of

(Fed. Cir. 2003) *vacated, remanded by Merck KGaA v. Integra Lifesciences I, Ltd.*, 545 U.S. 193 (2005) (citing the definition outlined in 64 Fed. Reg. at 72,092).

¹¹ *Proveris*, 536 F.3d 1256.

¹² 21 U.S.C. § 355(j) (2006).

the drug;¹³ instead, it only needs to show that its generic is the bioequivalent to (same active ingredients as) the previously marketed drug.¹⁴

However, things were not always as easy for a generic manufacturer. Prior to the Hatch Waxman Act, the generic manufacturer had to wait until after the patent expired¹⁵ on a pioneer (new) drug¹⁶ before undergoing experiments to prove bioequivalence.¹⁷ The practical result was

¹³ 21 U.S.C. § 355(j)(2)(A) (2006).

¹⁴ 21 U.S.C. § 355(j)(2)(A)(ii), (2)(A)(iv), (8)(B) (2006). The general FDA Drug Approval Process for a new drug is as follows:

- Initial Step: Perform preclinical testing in animals; obtain the pharmacological profile, the acute toxicity data, and short-term toxicity data; submit an Investigational New Drug (IND) application to the FDA (the FDA has 30 days to review).
- Phase I: Perform clinical pharmacological studies on humans to obtain information on the safety and pharmacological activity of the drug (this Phase last an average of 6 months to 1 year).
- Phase II: Concentrated studies in patients with the specific conditions that the drug is meant to address in order to determine intended efficacy (average of 2 years).
- Phase III: These are the open trials that last approximately 3 years and occur on multiple health centers. The Phase III studies are critical for approval by the FDA.
- New Drug Application (NDA): The applicant submits all of the testing data as well as all relevant information regarding manufacturing, packaging, and product assurance. This application is reviewed for an average of 24 months.
- Phase IV: Includes post-market analysis on the approved drug.

However, a generic drug can be filed under an abbreviated new drug application (ANDA). For a generic drug, the applicant needs to prove bioequivalence to the brand-name drug, but Phase I, II, and III data are not required. Jason C. Cooper, The FDA Approval Process, Lecture Notes, available at <http://people.musc.edu/~cooperjc/FDAapproval.htm> (last visited Oct. 28, 2009).

¹⁵ 35 U.S.C. § 154(a) (2006) (declaring that the patent term for applications filed on or after June 8, 1995 is twenty years from the filing date of the original application); 35 U.S.C. § 154(c) (allowing a patent holder of a patent that was filed before June 8, 1995 to have a term that is the greater of that outlined in § 154(a) or seventeen years from the date the patent is granted).

¹⁶ 21 U.S.C. § 321(p) (2006) (defining a new drug as one “the composition of which is such that such drug is not generally recognized, among experts qualified by scientific training and experience to evaluate the safety and effectiveness of drugs”).

¹⁷ Roche Prods., Inc. v. Bolar Pharm. Co., 733 F.2d 858 (Fed. Cir. 1984) (finding a generic manufacturer liable for infringement for practicing a patented invention to submit data to the FDA for approval during the patent’s active term).

that the generic manufacturer was not able to enter the market immediately after the expiration of the patent, and thus the patent holder gained a *de facto* patent term extension.¹⁸ This delay in generic entry was very valuable to pioneer drug manufacturers and also very costly to consumers.¹⁹

These patent term distortions in the pre-Hatch Waxman era are illustrated in *Roche Prods., Inc. v. Bolar Pharm. Co.*²⁰ In *Roche*, the accused infringer (Bolar) made a patented drug and performed safety tests and experiments of bioequivalence while the Roche's pioneer patent was still in force, in violation of Roche's exclusionary rights under 35 U.S.C. § 154(a)(1).²¹ This testing was done in order to satisfy Bolar's submission to the FDA.²² Of note was that Bolar did not plan to market their generic drug while Roche's patent was in force; rather, they wanted to obtain FDA approval during Roche's patent life so that they could effectively market the generic immediately after the patent expired.²³ The court, noting that Bolar did not experiment on the

¹⁸ *Eli Lilly & Co. v. Medtronic, Inc.*, 496 U.S. 661, 670 (1990) (“[T]he patentee’s de facto monopoly would continue for an often substantial period until regulatory approval was obtained.”); *Proveris*, 536 F.3d at 1265 (“[T]he de facto extension of effective patent life at the end of the patent term [is] also caused by the FDA premarket approval process.”).

¹⁹ Matthew Avery, Note, *Continuing Abuse of the Hatch-Waxman Act by Pharmaceutical Patent Holders and the Failure of the 2003 Amendments*, 60 HASTINGS L.J. 171, 172 (2008) (“Generic drugs can capture 80-90% of the market, often within months of entering the marketplace.”); CONG. BUDGET OFFICE, THE CONGRESS OF THE U.S., HOW INCREASED COMPETITION FROM GENERIC DRUGS HAS AFFECTED PRICES AND RETURNS IN THE PHARMACEUTICAL INDUSTRY 37 n.2 (1998), available at <http://www.cbo.gov/ftpdocs/6xx/doc655/pharm.pdf> (stating that, in 1994, 95 percent of drugs with revenues over \$40 million whose patents had expired had generic equivalents).

²⁰ *Roche*, 733 F.2d at 858.

²¹ *Id.* at 860.

²² *Id.*

²³ *Id.*

patented invention but rather experimented with the invention in order to obtain safety and bioequivalence data, held that the experimental use defense did not apply.²⁴ In addition, the court noted that “Section 271(a) prohibits, on its face, any and all uses of a patented invention.”²⁵ Scholars have noted that the holding in *Roche* was not “extraordinary” and followed the proper analysis with regard to experimental use.²⁶

However, the decision was controversial and mere months after the decision in *Roche*, Congress enacted the Drug Price Competition and Patent Term Restoration Act of 1984, better known as the Hatch Waxman Act, overturning *Roche*.²⁷ The FDA safe harbor provision of the Hatch Waxman Act is codified in 35 U.S.C. § 271(e)(1) and states:

It shall not be an infringement to make, use, offer to sell, or sell within the United States or import into the United States a patented invention . . . solely for uses reasonably related to the development and submission of information under a Federal law which regulates the manufacture, use or sale of drugs.²⁸

The legislative history of the Hatch Waxman Act indicates that it was originally meant to be a very limited reversal of the *Roche* decision.²⁹ The main purpose of the safe harbor provision

²⁴ *Roche*, 733 F.2d at 863.

²⁵ *Id.* at 861.

²⁶ Harold C. Wegner, *Post-Merck Experimental Use and the “Safe Harbor”*, 15 FED. CIR. B.J. 1, 13 (2005).

²⁷ See Drug Price Competition and Patent Term Restoration Act of 1984, Pub. L. No. 98-417, 98 Stat. 1585 (1984) (codified at 15 U.S.C. § 68(b)-(c), 70(b) (1994); 21 U.S.C. § 301 n.355, 360cc (1994); 28 U.S.C. § 2201 (1994); 35 U.S.C. §§ 156, 271, 282 (1994)).

²⁸ 35 U.S.C. § 271(e)(1) (2006).

²⁹ Wegner, *supra* note 26, at 13; Rebecca Lynn, Note, *Merck KGaA v. Integra Lifesciences I, Ltd.: Judicial Expansion of 271(e)(1) Signals a Need for a Broad Statutory Experimental Use Exemption in Patent Law*, 21 BERKELEY TECH. L.J. 79, 84-85 (2006); see also Paul Wiegel, *Was the FDA exemption to patent infringement, 35 U.S.C. § 271(e)(1), intended to exempt a*

was simply to enable generic drug manufacturers to enter the market immediately after patent expiration, by allowing them to begin the regulatory approval process while the patent was still in force.³⁰ By enacting the safe harbor, Congress was able to eliminate a distortion at the end of a patent term, in which a patentee had previously obtained a de facto patent term extension due to the generic company's inability to enter the market immediately after patent expiration.³¹

When considering the Act, Congress also recognized another distortion at the beginning of the term.³² Patentees were getting a de facto patent term reduction due to the time consumed in the FDA regulatory approval process.³³ In 1999, the average time for the FDA to review the approval application for a new drug was 12.6 months,³⁴ and it has been estimated that the average time from "synthesis to approval" is 100 months.³⁵ Thus, when Congress chose to overrule *Roche* with the safe harbor provision, it chose to offset this change by offering a patent term extension of up to five years for time spent in the regulatory approval process.³⁶

pharmaceutical manufacturer's activities in the development of new drugs?, 2007 B.C. INTELL. PROP. & TECH. F. 112901 (noting that the exemption was only meant to apply to generic drugs and not new pharmaceuticals).

³⁰ H.R. REP NO. 98-857(II), at 8 (1984), *reprinted in* 1984 U.S.C.C.A.N. 2686, 2692 (stating that the purpose of the Act was to legalize "a limited amount of testing so that generic manufacturers can establish the bioequivalency of a generic substitute").

³¹ *Eli Lilly & Co. v. Medtronic, Inc.*, 496 U.S. 661, 669-71 (1990).

³² *Id.* at 669-70.

³³ *Id.*

³⁴ *FDA Approval Process Slowing*, 36 PSYCHIATRIC NEWS 33 (2001). This statistic only represents the time for the review of the New Drug Application and does not include the previous applications and clinical trials.

³⁵ Cooper, *supra* note 14.

³⁶ *Medtronic*, 496 U.S. at 671; *see also* 35 U.S.C. § 156 (2006).

Although the initial purpose of the Hatch Waxman Act might well have been directed at generic drugs,³⁷ the courts have subsequently expanded that safe harbor doctrine to include upstream testing and medical devices in cases such as *Eli Lilly & Co. v. Medtronic, Inc.*³⁸ and *Merck KGaA v. Integra Lifesciences I.*³⁹ These cases and the subsequent expansion of the doctrine are discussed below.

Eli Lilly & Co. v. Medtronic, Inc.

In *Eli Lilly & Co. v. Medtronic, Inc.*, Eli Lilly sought to enjoin Medtronic from the “testing and marketing of an implantable cardiac defibrillator, a medical device used in the treatment of heart patients.”⁴⁰ Eli Lilly claimed that Medtronic was infringing its patents in this process, and Medtronic claimed exemption under the FDA safe harbor in 35 U.S.C. § 271(e)(1).⁴¹ Therefore, the Supreme Court was confronted with the issue of whether or not the FDA safe harbor provision was applicable not only to drugs, but also to medical devices.⁴²

However, deciding this issue was not clear-cut for the Court, partly due to the ambiguous nature of the statute.⁴³ In attempting to analyze § 271(e)(1), Justice Scalia noted that

No interpretation we have been able to imagine can transform § 271(e)(1) into an elegant piece of statutory draftsmanship. To

³⁷ Wiegel, *supra* note 29.

³⁸ *Medtronic*, 496 U.S. 661.

³⁹ *Merck KGaA v. Integra Lifesciences I, Ltd.*, 545 U.S. 193 (2005).

⁴⁰ *Medtronic*, 496 U.S. at 664.

⁴¹ *Id.*

⁴² *Id.* at 663.

⁴³ *Id.* at 679.

construe it as the Court of Appeals decided [that “patented invention” in the safe harbor includes medical devices], one must posit a good deal of legislative imprecision; but to construe it as petitioner would [that the safe harbor does not include medical devices], one must posit that and an implausible substantive intent as well.⁴⁴

In eventually finding that § 271(e)(1) included medical devices, the Court found it likely that Congress wished to balance the two distortions at the beginning and end of the patent term by enacting the Hatch Waxman Act.⁴⁵ Because medical devices were eligible for patent term extension under § 156 (and patent holders were thus able to negate the previous de facto patent term reduction), the Court was persuaded that Congress would have rationally meant to include medical devices in the safe harbor of § 271(e)(1) (thus symmetrically eliminating the patent holder’s de facto patent term extension).⁴⁶ Otherwise, a medical device patent holder would gain a patent extension at the end of the term for the time in regulatory approval, without also being subjected to generic competition under the safe harbor.⁴⁷ Importantly, the Court defined “patented invention” in § 271(e)(1) to “include all inventions, not drug-related inventions alone.”⁴⁸

This opinion is significant for numerous reasons. Firstly, the Court interpreted § 271(e)(1) to include medical devices, and not only drugs, even though it may have been the

⁴⁴ *Medtronic*, 496 U.S. at 679.

⁴⁵ *Id.* at 672-73.

⁴⁶ *Id.*

⁴⁷ *Id.* at 672-73.

⁴⁸ *Id.* at 665.

intent of legislators to only aid generic drugs getting to the market.⁴⁹ In addition, the Court's attempt to achieve symmetry between the prior patent term distortions that were present before the Hatch Waxman Act later became the basis of Federal Circuit's analysis in *Proveris*,⁵⁰ as described in Part II of this article. The Court's broad definition of "patented invention" in *Medtronic*⁵¹ is also a central inconsistency in the Federal Circuit's holding in *Proveris*,⁵² also discussed further in Part II.

After *Medtronic*, the next major Supreme Court case that effectively broadened the FDA safe harbor provision from its original purpose of allowing generic drug testing was *Merck KGaA v. Integra Lifesciences I*.⁵³

Merck KGaA v. Integra Lifesciences I

In *Merck*, Integra had an ownership interest in patents on peptide sequences (RGD peptides) that promote cell adhesion.⁵⁴ Merck began funding research at the Scripps Institute

⁴⁹ H.R. REP. NO. 98-857(II), at 8 (1984), *reprinted in* 1984 U.S.C.C.A.N. 2686, 2692 (noting that the House Committee on the Judiciary described the purpose of the safe harbor as allowing "a limited amount of testing so that generic manufacturers can establish the bioequivalency of a generic substitute"); H.R. REP. NO. 98-857(II), at 45 (1984), *reprinted in* 1984 U.S.C.C.A.N. 2686, 2714 (recording that the House Committee on the Judiciary anticipated the effects of the FDA safe harbor on the rights of the patent holder would be "de minimus [sic]"); Wegner, *supra* note 26, at 13 (characterizing the safe harbor as being "designed to create a very narrow statutory override . . . simply to permit the regulatory testing of generic drugs[.]"); Lynn, *supra* note 29, at 84-85 (stating that the purpose of Congress was to affect the regulatory approval process for generic drugs); *see also* Wiegel, *supra* note 29 (noting that the exemption was only meant to apply to generic drugs and not new pharmaceuticals).

⁵⁰ *Proveris Scientific Corp. v. Innovasystems, Inc.*, 536 F.3d 1256, 1265 (Fed. Cir. 2008).

⁵¹ *Medtronic*, 496 U.S. at 665.

⁵² *Proveris*, 536 F.3d at 1265-66.

⁵³ *Merck KGaA v. Integra Lifesciences I*, 545 U.S. 193 (2005).

that involved preclinical testing of RGD peptides for use in angiogenesis as well as tumor inhibition.⁵⁵ Integra then filed suit against various entities, including Merck, claiming patent infringement.⁵⁶ The issue before the Supreme Court was “whether uses of patented inventions in preclinical research, the results of which are not ultimately included in a submission to the Food and Drug Administration (FDA), are exempted from infringement by 35 U.S.C. § 271(e)(1).”⁵⁷

In holding that the preclinical research is protected by the safe harbor provision, the Court concentrated on the phrase “reasonably related” in the statute.⁵⁸ The Court noted that it is “apparent from the statutory text . . . that § 271(e)(1)’s exemption from infringement extends to all uses of patented inventions that are reasonably related to the development and submission of *any* information under the FDCA [Food Drug and Cosmetic Act].”⁵⁹ In addition, “[t]here is simply no room in the statute for excluding certain information from the exemption on the basis of the phase of research in which it is developed or the particular submission in which it could be included.”⁶⁰ The Court viewed “reasonably related” activity as that for which one “has a reasonable basis for believing that a patented compound may work, through a particular

⁵⁴ *Merck*, 545 U.S. at 197.

⁵⁵ *Id.*

⁵⁶ *Id.* at 200.

⁵⁷ *Id.* at 195.

⁵⁸ *Id.* at 202.

⁵⁹ *Merck*, 545 U.S. at 202.

⁶⁰ *Id.*

biological process, to produce a particular physiological effect, and uses the compound in research, that if successful, would be appropriate to include in a submission to the FDA.”⁶¹

Thus, the Supreme Court’s rulings in *Medtronic* and *Merck* appeared to expand the FDA safe harbor provision in § 271(e)(1). In light of this expansive trend, the Federal Circuit’s recent restrictive holding in *Proveris*⁶² can be viewed a substantial. Part II, below, will discuss the *Proveris* case and the inconsistencies in its analysis when compared with of *Medtronic* and *Merck*, discussed above.

Part II: Analysis of Proveris Scientific Corp. v. Innovasystems, Inc.

On August 5, 2008, the Federal Circuit handed down its decision in *Proveris Scientific Corp. v. Innovasystems, Inc.*⁶³ This decision is noteworthy because it is the first Federal Circuit case⁶⁴ that has addressed how the FDA safe harbor should be applied in the context of research tools.⁶⁵

Proveris owned a patent (“the ’400 Patent”) on “a system and apparatus for characterizing aerosol sprays commonly used in various drug delivery devices, such as nasal

⁶¹ *Merck*, 545 U.S. at 207.

⁶² *Proveris Scientific Corp. v. Innovasystems, Inc.*, 536 F.3d 1256 (Fed. Cir. 2008).

⁶³ *Id.*

⁶⁴ See *supra* note 7 for a discussion on Federal Circuit jurisdiction.

⁶⁵ *Proveris*, 536 F.3d at 1264 (noting that Innova viewed its device as a research tool). See *supra* note 10 for a definition of “research tools.” The definition of research tools is rather broad. Some tools, such as monoclonal antibodies, can be subject to FDA approval; however, others (such as microscopes) are not subject to the FDCA regulatory approval process. See Ramon K. Tabtiang & Steven C. Carlson, *A Safe Harbor in a Patent Storm?*, LOS ANGELES DAILY JOURNAL, Sept, 10, 2008, at 7, available at http://www.fr.com/news/2008/September/FR%20DJ%20clip%20Proveris%20Case%20Tabtiang%20and%20Carlson%209-10-08%20_3_.pdf.

spray pumps and inhalers.”⁶⁶ Since “FDA approval is required for inhaler-based drug delivery devices,” spray characterization (such as that accomplished by the ’400 Patent)⁶⁷ is important in the FDA approval process.⁶⁸ However, the actual “system and apparatus” disclosed in the ’400 Patent are not subject to FDA approval.⁶⁹ This invention can be characterized as a research tool because it is used as laboratory testing equipment by scientists.⁷⁰

Innova, the accused infringer, produced an Optical Spray Analyzer (OSA) that it sold to third parties but never used for its own FDA-related research.⁷¹ The OSA was used by third parties to develop data for FDA submissions (such as measurements of the “physical parameters of aerosol sprays”), but the OSA was not itself subject to FDA approval.⁷²

Proveris filed an infringement suit against Innova,⁷³ and the issue eventually presented to the Federal Circuit was “whether section 271(e)(1) immunized the manufacture, marketing or

⁶⁶ *Proveris*, 536 F.3d at 1258; U.S. Patent No. 6,785,400 (filed Aug. 16, 2000).

⁶⁷ The ’400 Patent (stating that characterization of the geometry of an inhaler’s aerosol spray is the best indicator of the overall performance of the drug delivery device; noting that the most important measurements include the spray angle and geometry as it leaves the device, the cross-sectional ellipticity, the spray uniformity and pattern, and the time-wise development of the spray plume).

⁶⁸ *Proveris*, 536 F.3d at 1258.

⁶⁹ *Id.*

⁷⁰ Principles and Guidelines for Recipients of NIH Research Grants and Contracts on Obtaining and Disseminating Biomedical Research Resources, *supra* note 10, at 72,092 n.1; *see also Proveris*, 536 F.3d at 1264 (noting that Innova viewed its device as a research tool, although the court did not conclusively agree, stating “assuming its OSA device is viewed as such [as a research tool]”).

⁷¹ *Proveris*, 536 F.3d at 1259, 1264.

⁷² *Id.*

⁷³ *Id.* at 1258.

sale of Innova's OSA, which is used in the development of FDA regulatory submissions, but is not itself subject to the FDA premarket approval process."⁷⁴

In concluding that Innova's OSA was not protected under the safe harbor provision, the court centered its analysis on the phrase "patented invention" in § 271(e)(1).⁷⁵ The court modeled its approach after the one taken by the Supreme Court in *Medtronic*.⁷⁶ It reiterated the counterbalancing patent term distortions that were addressed by the Hatch Waxman Act and noted that "the first distortion was the reduction of effective patent life caused by the FDA premarket approval process, while the second distortion was the de facto extension of effective patent life at the end of the patent term – also caused by the FDA premarket approval process."⁷⁷ The Federal Circuit stated that since Innova's OSA did not require premarket FDA approval, it was not a party that would have been negatively affected by the second distortion prior to the enactment of the Hatch Waxman Act.⁷⁸ Therefore, the court held that Congress would not have intended for Innova to be protected by the safe harbor provision if it were not also subject to the second distortion.⁷⁹ The court felt that this analysis provided the "same kind of fit, or symmetry" as that proffered by the Supreme Court in *Medtronic*.⁸⁰

⁷⁴ *Proveris*, 536 F.3d at 1265.

⁷⁵ *Id.* at 1265-67.

⁷⁶ *Id.* at 1265.

⁷⁷ *Id.* (citing *Medtronic*, 496 U.S. at 669-70).

⁷⁸ *Id.*

⁷⁹ *Proveris*, 536 F.3d at 1265.

⁸⁰ *Id.* at 1265-66.

Thus, the Federal Circuit ultimately held that, since Innova's OSA was not the type of invention that Congress intended to be protected under the Hatch Waxman Act, that it was not a "patented invention" under § 271(e)(1).⁸¹ The court did not even reach the issue of whether or not the testing use of the OSA was "reasonably related" to a submission to the FDA.

Although the Federal Circuit's analysis is appealing from the perspective of symmetry, this "fit" may be deceiving. There are inventions that can be used merely to obtain data (in much the same ways as Innova's OSA) that are, however, subject to FDA approval.⁸² This could lead to the somewhat anomalous result that the FDA safe harbor would apply to the use of an FDA approved invention as a mere research tool (and not the therapeutic use that was subjected to the regulatory approval process), while leaving the use of other non-regulated research tools non-excepted.⁸³ One example is monoclonal antibodies which are subject to FDA approval but can also be used as binding agents in drug screening assays.⁸⁴ Under a strict reading of the Federal Circuit's test in *Proveris*, the use of a monoclonal antibody as a research tool might have protection under the FDA safe harbor, whereas the use of Innova's OSA as a research tool was not excepted. However, it could be that the court would then be forced to assess whether or not the use of the tool was "reasonably related" to an FDA submission.

In light of the example above, the Federal Circuit might be attempting to force symmetry where it has never completely existed. Even the application of the Supreme Court's holding in

⁸¹ *Proveris*, 536 F.3d at 1265-66.

⁸² *Tabtiang & Carlson*, *supra* note 65, at 7.

⁸³ For the purposes of this example, it is assumed that both the FDA-regulated and the FDA non-regulated inventions are used "solely for uses reasonably related to the development and submission of information under" the FDCA as required by 35 U.S.C. § 271(e)(1) (2006).

⁸⁴ *Tabtiang & Carlson*, *supra* note 65, at 7.

Medtronic, on which the Federal Circuit modeled its symmetry analysis, does not result in perfect symmetry.⁸⁵ In *AbTox*, the question before the court was whether or not § 271(e)(1) covered Class II medical devices.⁸⁶ Many Class II devices, in comparison to Class III devices (such as the defibrillator in *Medtronic*), undergo a much less rigorous regulatory approval process,⁸⁷ and are not eligible for patent extensions under § 156.⁸⁸ Despite the asymmetrical result, the Federal Circuit noted that “the phrase ‘patented invention’ of section 271(e)(1) includes any medical device, regardless of its eligibility for patent term extension under section 156.”⁸⁹ Thus, when presented with the decision of whether to draw distinctions between different classes of medical devices or to allow asymmetries between § 271(e)(1) and § 156, the Federal Circuit had previously chosen the latter. However, more recently in *Proveris*, the Federal Circuit has reverted back to attempting to force symmetry.

While assessing symmetry in *Proveris*, the court appeared to concentrate on whether or not *Innova’s infringing device* was subject to FDA approval.⁹⁰ However, the court also found

⁸⁵ *AbTox, Inc. v. Exitron Corp.*, 122 F.3d 1019 (Fed. Cir. 1997).

⁸⁶ *Id.* at 1028.

⁸⁷ The FDA separates devices into three Classes. Class I devices are subject to minimal controls and pose no unreasonable risk of illness or injury. Class II devices are possibly more harmful and must comply with federal special controls (although they may be marketed without approval). Class III devices are potentially the most harmful and are those that are intended for “supporting or sustaining human life” or are substantially “important in preventing impairment of human health.” These must be approved by the FDA before marketing. *Medtronic, Inc. v. Lohr*, 518 U.S. 470 (1996). *See also* 21 U.S.C. § 360 (k), (m) (2006) (outlining the exemption of certain Class II devices from reporting to the federal government before introducing a medical device into interstate commerce).

⁸⁸ *AbTox*, 122 F.3d at 1029.

⁸⁹ *Id.* at 1028-29.

⁹⁰ *Proveris Scientific Corp. v. Innovasystems, Inc.*, 536 F.3d 1256, 1265 (Fed. Cir. 2008).

noteworthy that *Proveris*' patented invention was also not subject to FDA approval.⁹¹ Since it is uncertain whether the court centered its analysis on the infringing device or the patented invention (or both), it remains somewhat unclear how the court would view an infringing application that was not used in a context of FDA approval when the patented invention was subject to FDA approval, or vice-versa.

Similarly, it is not clear whether the Federal Circuit's analysis was centered on the device, the parties, or a combination of both. On one hand, the court notes that Innova was not a *party* that was itself seeking FDA approval, and therefore Congress could not have meant to protect it with the FDA safe harbor.⁹² However at other times, the court concentrates on the *device* and not the party by noting that Innova's infringing *device* was not subject to approval under the FDCA, so it was not eligible for protection under the safe harbor.⁹³ Due to the lack of certainty of the importance of the infringer's mode of use, it is unclear how the *Proveris* decision would have come down if Innova had itself solely used its OSA for FDA submissions.⁹⁴ In the end, it is possible that the Federal Circuit's decision was influenced by the fact that Innova did not manufacture the infringing device for its own use, but merely made its OSA to sell to pharmaceutical companies and the FDA.⁹⁵ It also appears that the Federal Circuit has redefined

⁹¹ *Proveris*, 536 F.3d at 1265.

⁹² *Id.*

⁹³ *Id.* at 1266.

⁹⁴ *Federal Circuit: No § 271(e)(1) Safe Harbor for Patented Inventions not Regulated by FDA*, Aug., 8, 2008, <http://www.bakerdonelson.com/ContentWide.aspx?NodeID=200&PublicationID=464> (last visited Oct. 28, 2009) (noting a very similar issue in the context of third-party funding).

⁹⁵ *Proveris*, 536 F.3d at 1264.

“patented invention” in a way that is directly contrary to that laid out by the Supreme Court. As noted above, the Supreme Court in *Medtronic* defined “patented invention” in § 271(e)(1) to “include all inventions, not drug-related inventions alone.”⁹⁶ However, in *Proveris*, the Federal Circuit limits the definition of “patented invention” to only include those inventions that require FDCA approval.⁹⁷ In light of the Supreme Court’s trend of broadening the safe harbor provision,⁹⁸ the Supreme Court might well have intended all inventions to be included under the safe harbor.

Part III: Recommendations

However the FDA safe harbor is interpreted, it likely will result in various inconsistencies.⁹⁹ As Justice Scalia noted, “[n]o interpretation we have been able to imagine can transform § 271(e)(1) into an elegant piece of statutory draftsmanship.”¹⁰⁰ That being said, the Federal Circuit has created unnecessary confusion in *Proveris* by not following the prior trends and decisions of the Supreme Court as well as its own earlier holding.

In view of the inconsistent definition of “patented invention,”¹⁰¹ it would be advantageous for the Federal Circuit to abandon its definition and resort to the broader view of

⁹⁶ *Eli Lilly v. Medtronic*, 496 U.S. 661, 665 (1990).

⁹⁷ *Proveris*, 536 F.3d at 1265-66.

⁹⁸ *Medtronic*, 496 U.S. 661 (broadening the safe harbor provision to include medical devices); *Merck*, 545 U.S. 193 (interpreting the safe harbor to encompass preclinical testing of new drugs).

⁹⁹ *Medtronic*, 496 U.S. at 679.

¹⁰⁰ *Id.*

¹⁰¹ Compare *Medtronic*, 496 U.S. at 665 (stating that patented inventions “include all inventions, not drug-related inventions alone”), with *Proveris*, 536 F.3d at 1265-66 (restricting patented

the Supreme Court in *Medtronic*.¹⁰² This would result in a more consistent definition, and would also allow for any safe harbor analysis to take place under the “solely” and/or “reasonably related” prongs of § 271(e)(1) versus attempting to force symmetry in instances where it simply does not fit. Therefore, the same outcome could have been reached by the Federal Circuit in *Proveris* by determining that the relation between the measuring tool and the physical parameters of the aerosol sprays was too attenuated to be considered “reasonably related” to an FDA submission.¹⁰³ This type of analysis would offer more flexibility with regard to widely-varying fact scenarios and would be more amenable to application than a more rigid and “symmetrical” test of whether or not the technology is a “patented invention.”

Similarly, the court in *Proveris* could have reached the same result by centering its analysis on the “solely” text of § 271(e)(1). Since Innova’s intentions and actions were simply to obtain commercial revenue from the infringing product versus itself using it for FDA-related research, it could be argued that its sole use was not reasonably related to FDA submissions.

By concentrating on the “solely” and “reasonably related” text of § 271(e)(1), the court would appropriately focus on the question of why the accused infringer used the patented invention instead of directing its attention to whether or not the infringed device is subject to

inventions under 271(e)(1) to only those that are subjected to the regulatory approval process under the FDCA).

¹⁰² Although I have not found any sources or publications directly advocating for the abandonment of the definition of “patented invention” outlined in *Proveris*, some commentators have noted the inconsistency. See Tabtiang & Carlson, *supra* note 65, at 7 (stating that “[b]y constricting the category of ‘patented invention’ to only those that require FDA premarket approval, *Proveris* undoubtedly runs against the trend in [*Medtronic* and *Merck*]”).

¹⁰³ See *Proveris Scientific Corp. v. Innovasystems, Inc.*, 536 F.3d 1256, 1264 (Fed. Cir. 2008) (noting that *Proveris* argued that Innova’s infringement was not “reasonably related” to FDA submissions in part because it was merely for commercial sale).

FDA approval. Viewing the problem within this framework would allow the courts to adequately address the applicability of the FDA safe harbor provision to research tools.

Specifically, it would allow an informed distinction to be drawn between various uses of monoclonal antibodies, as well as between different applications of diagnostic assays (one of the questions posed in the Introduction). Similarly, by addressing the issues with the flexible approach advocated in this article, the courts could properly and directly assess how reasonably-related a use is if it is sold to a third party for FDA-related research versus used in-house.