COOLEY LLP
MICHAEL ATTANASIO (151529)
(mattanasio@cooley.com)
BARRETT J. ANDERSON (318539)
(banderson@cooley.com)
CRAIG E. TENBROECK (287848)
(ctenbroeck@cooley.com)
SOPHIA M. RIOS (305801)
(srios@cooley.com)
JAYME B. STATEN (317034)
(jstaten@cooley.com)
4401 Eastgate Mall
San Diego, CA 92121-1909
Telephone: (858) 550-6000
Facsimile: (858) 550-6420

Attorneys for Plaintiff and Counter-Defendant ChromaDex, Inc.

Counsel continued on following page

UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

(WESTERN DIVISION)

ChromaDex, Inc.,

Plaintiff,

v.

Elysium Health, Inc., and Mark Morris

Defendants.

Elysium Health, Inc.,

Counterclaimant,

v.

ChromaDex, Inc.,

Counter-Defendant.

Case No. 8:16-cv-2277-CJC (DFMx)

CHROMADEX, INC.'S MEMORANDUM IN SUPPORT OF *DAUBERT* MOTION TO EXCLUDE CERTAIN OPINIONS OF DR. IAIN COCKBURN

Judge:	Hon. Cormac J. Carney
Courtroom:	7C
Date:	September 18, 2019
Time:	9:00 AM
Trial Date:	October 15, 2019
Pretrial Conference:	Sept. 18, 2019

COVINGTON & BURLING LLP
MITCHELL A. KAMIN (202788)
(mkamin@cov.com)
1999 Avenue of the Stars, Suite 3500
Los Angeles, CA 90067-4643
Telephone: (424) 332-4800
Facsimile: (424) 332-4749

COVINGTON & BURLING LLP
PHILIP A. IRWIN (*admitted Pro Hac Vice*)
(pirwin@cov.com)
620 Eighth Avenue
New York, NY 10018-1405
Telephone: (212) 841-1000

Attorneys for Plaintiff and Counter-Defendant ChromaDex, Inc.

Table of Contents

Page

Table of Authorities

Page(s)

Cases

Table of Authorities
(continued)

Page(s)

Table of Authorities (continued)

Page(s)

Table of Authorities
(continued)

Page(s)

Statutes

Other Authorities

I. INTRODUCTION

Plaintiff and Counter-Defendant ChromaDex, Inc. ("ChromaDex") sued Defendant Elysium Health, Inc. ("Elysium") for refusing to pay for ingredients it received, for misappropriating trade secrets, for misusing ChromaDex's information to develop a competing source of ingredients, and for inducing a ChromaDex executive to breach his fiduciary duty to help with that effort. Elysium filed several factually and legally defective counterclaims and retained an economist, Dr. Iain Cockburn, to render opinions on a few of them. Many of his opinions are unreliable and unhelpful because they do not apply accepted methodologies or techniques, ignore inconvenient evidence, or rely on unsupported assumptions. Those opinions do not meet the requirements under Federal Rule of Evidence 702 or *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), and should be excluded. They fall into three categories:

First, in connection with Elysium's patent misuse counterclaim, Dr. Cockburn declares that ChromaDex "committed patent misuse" from an "economic perspective." That is a legal conclusion masquerading as an expert opinion. Dr. Cockburn also opines that the ingredient that ChromaDex sold to Elysium—nicotinamide riboside ("NR")—is by itself a relevant "product market" for the patent misuse determination, without applying any standard methodology for making that determination. Finally, he opines that ChromaDex's alleged misuse caused "anticompetitive effects," but his scant analysis suffers from significant gaps and thus should be excluded.

Second, two of Dr. Cockburn's damages estimates are ripe for exclusion. These opinions, rendered in connection with Elysium's counterclaims for breach of contract provisions in the supply agreement between ChromaDex and Elysium related to exclusivity and current good manufacturing practices ("cGMPs"), rest on unsupported assumptions and guesswork. They are far too speculative to be heard by the jury.

Third, Dr. Cockburn's "rebuttal" to ChromaDex's damages expert is little more than a recitation of Elysium's version of facts and the law. Such testimony, which could

just as easily be rendered by Elysium's counsel, does not help the trier of fact to understand the evidence or to determine a fact in issue.

In exercising the "gatekeeper" duties that the Federal Rules of Evidence impose—ensuring that expert testimony is based on sufficient facts or data and is the product of reliable principles and methods—this Court should preclude Dr. Cockburn from offering any of these opinions at trial.

II. LEGAL STANDARD

Federal Rule of Evidence 702, as explained in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993) and its progeny, governs the admission of expert testimony. Rule 702 allows admission of "scientific, technical, or other specialized knowledge" by a qualified expert if it will "help the trier of fact to understand the evidence or to determine a fact in issue." Such testimony is admissible only when it is "based upon sufficient facts or data," when it is "the product of reliable principles and methods," and when the witness has "reliably applied the principles and methods to the facts of the case." Fed. R. Evid. 702. "These criteria can be distilled to two overarching considerations: 'reliability and relevance.'" *Kamakahi v. Am. Soc'y for Reprod. Med.*, 305 F.R.D. 164, 176 (N.D. Cal. 2015) (quoting *Ellis v. Costco Wholesale Corp.*, 657 F.3d 970, 982 (9th Cir. 2011)).

Reliability: A reliable opinion must be scientifically valid. *Estate of Barabin v. AstenJohnson, Inc.*, 740 F.3d 457, 463 (9th Cir. 2014) (en banc); *see also Clark v. Takata Corp.*, 192 F.3d 750, 759 n.5 (7th Cir. 1999) (noting that even if the court finds that a witness is a "supremely qualified expert," that witness "cannot waltz into the courtroom and render opinions unless those opinions are based upon some recognized scientific method"). Factors courts use to assess reliability include "1) whether a theory or technique can be tested; 2) whether it has been subjected to peer review and publication; 3) the known or potential error rate of the theory or technique; and 4) whether the theory or technique enjoys general acceptance within the relevant scientific community." *Estate of Barabin*, 740 F.3d at 463.

Relevancy: A relevant opinion must "logically advance a material aspect of the party's case." *Estate of Barabin*, 740 F.3d at 463 (quoting *Cooper v. Brown*, 510 F.3d 870, 942 (9th Cir. 2007)). That is, it "must not only be based on reliable science but must also 'fit' the particular facts." *Concord Boat Corp. v. Brunswick Corp.*, 207 F.3d 1039, 1055 (8th Cir. 2000) (citing *Daubert*, 509 U.S. at 591). If an expert opinion has not considered all the relevant facts and simply ignored "inconvenient evidence," an objection to its admission is appropriate. *Id.* at 1056 (citing *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 154 (1999)). "[N]othing in either Daubert or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert." *General Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997).

Finally, under Federal Rule of Evidence 403, a district court should exclude testimony or evidence where its "probative value" is substantially outweighed by risks of prejudice, confusion or waste of time. *General Elec. Co.*, 522 U.S. at 148 (Breyer, J., concurring).

III. THE COURT SHOULD EXCLUDE CERTAIN OPINIONS BY DR. COCKBURN ABOUT PATENT MISUSE

Dr. Cockburn seeks to render several opinions tied to Elysium's patent misuse counterclaim. Elysium's theory for this counterclaim is that ChromaDex acted unlawfully by allegedly conditioning access to its patented ingredient (NR) to its customers licensing ChromaDex's trademark. (Dkt. 103, Elysium's Third Amended Counterclaims ("TACC") ¶¶ 170–81.)

"[T]he key inquiry under the patent misuse doctrine is whether, by imposing the condition in question, the patentee has impermissibly broadened the physical or temporal scope of the patent grant and has done so in a manner that has anticompetitive effects." *Princo Corp. v. Int'l Trade Comm'n*, 616 F.3d 1318, 1328 (Fed. Cir. 2010) (en banc). "[P]atent misuse with respect to tying is a two-step inquiry. First, the defendant must demonstrate that the patent holder has market power in a clearly defined

market. Second, the defendant must establish that the conduct at issue is either per se misuse, or misuse under the rule of reason." *Saint Lawrence Commc'ns LLC v. Motorola Mobility LLC*, 2018 WL 915125, at *8 (E.D. Tex. Feb. 15, 2018) (internal citation omitted). To prevail on this equitable counterclaim, Elysium must establish that ChromaDex misused its patents by "clear and convincing" evidence. *Universal Elecs., Inc. v. Universal Remote Control, Inc.*, 2014 WL 12587050, at *8 (C.D. Cal. Dec. 16, 2014).

Among Dr. Cockburn's opinions are the following:

- The manufacture and supply of the NR ingredient constitutes a relevant "product market" in the United States, (Cockburn Rep. ¶ 11);[1]
- ChromaDex has "committed patent misuse" from an "economic perspective," (*id.* ¶ 13); and
- ChromaDex's alleged misuse has resulted in "significant, ongoing anticompetitive effects," (*id.* ¶ 14), that "will never be fully dissipated," (*id.* ¶¶ 15, 168).

None of these opinions satisfy *Daubert*. Exclusion is the appropriate remedy.

A. Dr. Cockburn Does Not Define the Relevant Product Market Using an Accepted Methodology Properly Applied to the Facts

To prevail on its patent misuse counterclaim, Elysium must prove that ChromaDex has market power in a relevant market. 35 U.S.C. § 271(d)(5); *Saint Lawrence*, 2018 WL 915125, at *8. Not surprisingly, Dr. Cockburn defines the relevant market as "the manufacture and supply of the NR ingredient" in the United States—a market gerrymandered to fit Elysium's precise needs. (Ex. 1 at 20.) The Court should exclude Dr. Cockburn's opinion about the relevant market because it is not the product of reliable economic principles and methods and conflicts with applicable law.

The definition of a relevant market is a "highly technical economic question." *Morgan, Strand, Wheeler & Biggs v. Radiology, Ltd.*, 924 F.2d 1484, 1490 (9th Cir.

[1] All citations to Exhibits ("Ex.") refer to those Exhibits attached to the Declaration of Craig E. TenBroeck filed concurrently herewith.

1991) (discussing concept of a relevant market under analogous antitrust principles). Broadly speaking, a product market "must encompass the product at issue as well as all economic substitutes for the product." *Newcal Indus., Inc. v. Ikon Office Sol.*, 513 F.3d 1038, 1045 (9th Cir. 2008). Whether products are part of the same or different markets "depends on whether consumers view those products as reasonable substitutes for each other and would switch among them in response to changes in relative prices." *Apple, Inc. v. Psystar Corp.*, 586 F. Supp. 2d 1190, 1196 (N.D. Cal. 2008). "Where an increase in the price of one product leads to an increase in demand for another, both products should be included in the relevant product market." *Olin Corp. v. FTC*, 986 F.2d 1295, 1298 (9th Cir. 1993).

Courts "must be skeptical of attempts to narrow the market merely to the products of the defendant." *Nobel Sci. Indus., Inc. v. Beckman Instruments, Inc.*, 670 F. Supp. 1313, 1319, 1322 (D. Md. 1986) (rejecting "extremely narrow market definition, essentially limited to the products of one company"). If an expert does not meaningfully consider a "range of potential substitutes," his testimony should be excluded. *Ky. Speedway, LLC v. Nat'l Ass'n of Stock Car Auto Racing, Inc.*, 588 F.3d 908, 916, 918 (6th Cir. 2009) (holding expert report was properly stricken where expert considered "only Busch series and open-wheeled races as possible substitutes for attending live NASCAR stock-car racing events or watching them on television"); *In re Fresh Del Monte Pineapples Antitrust Litig.*, 2009 WL 3241401, at *11 (S.D.N.Y. Sept. 30, 2009) (excluding testimony of expert who "quickly" dismissed reasonable substitutes based on "scant evidence"), *aff'd sub nom. Am. Banana Co. v. J. Bonafede Co.*, 407 F. App'x 520 (2d Cir. 2010).

Exclusion is warranted here because, *en route* to his convenient finding that the market was limited only to the NR ingredient, Dr. Cockburn did not use an accepted methodology to define that market's boundaries. *See, e.g., Plush Lounge Las Vegas LLC v. Hotspur Resorts Nev. Inc.*, 371 F. App'x 719, 720 (9th Cir. 2010) (affirming exclusion of expert declarations because "neither declarant provided an explanation of

the methodology used to arrive at the proposed market definition"); *AFMS LLC v. United Parcel Serv. Co.*, 2014 WL 12515335, at *7 (C.D. Cal. Feb. 5, 2014) (excluding opinion of expert who did "not apply any of the accepted methodologies for defining a relevant market"); *In re Live Concert Antitrust Litig.*, 863 F. Supp. 2d 966, 994 (C.D. Cal. 2012) (ruling expert's market analysis was "neither sufficiently reliable nor sufficiently helpful to the trier of fact"). To be sure, Dr. Cockburn paid lip service to several recognized methodologies: calculating "cross-price elasticities," conducting a hypothetical monopolist test, and applying the *Brown Shoe* factors. (Ex. 1 at 20–21, 30.) But he does not even attempt to apply the first two, and his purported application of the third is unreliable and contrary to law and economic principles.

Cross-elasticity of demand. The "preferred" methodology for defining a market is calculating the "cross-elasticity of demand." *AFMS*, 2014 WL 12515335, at *7; *Live Concert*, 863 F. Supp. 2d at 984. "Cross-elasticity of demand measures the percentage change in quantity that consumers will demand of one product in response to a percentage change in the price of another." *Theme Promotions, Inc. v. News Am. Mktg. FSI*, 546 F.3d 991, 1002 (9th Cir. 2008). "A high cross elasticity of demand indicates that products are close substitutes, and should probably be treated as part of the same market. A low or zero cross elasticity of demand is evidence that products do not compete in the same relevant market." *Forsyth v. Humana, Inc.*, 114 F.3d 1467, 1483 (9th Cir. 1997) (Wallace, J., concurring and dissenting). While calculating cross-elasticity of demand is not an absolute requirement, it is "often an economist's first step." *Live Concert*, 863 F. Supp. 2d at 984. Dr. Cockburn admits that he did not conduct any price elasticity calculations. (Ex. 1 at 30–31.)

Hypothetical monopolist test. A related tool for defining a market is the "hypothetical monopolist" test used by federal antitrust agencies. *See Theme*, 546 F.3d at 1002; DOJ & FTC, Horizontal Merger Guidelines § 4.1.1 (2010). At a high level, one applies the hypothetical monopolist test by starting with one product, then asking whether a hypothetical monopolist in that market could profitably elevate price, usually

by 5%. If it could not, then "the market definition should be expanded to include those substitute products that constrain the monopolist's pricing," and the simulation run again. *Theme*, 546 F.3d at 1002; *see also Live Concert*, 863 F. Supp. 2d at 987. Dr. Cockburn *refers* to the hypothetical monopolist test, (Ex. 1 at 20–21), but he manifestly does not perform one.

Brown Shoe. Finally, the Supreme Court's *Brown Shoe* decision identified seven "practical indicia" for identifying "submarkets" within a primary market. *Brown Shoe Co. v. United States*, 370 U.S. 294, 325 (1962). These include: "industry or public recognition of the submarket as a separate economic entity, the product's peculiar characteristics and uses, unique production facilities, distinct customers, distinct prices, sensitivity to price changes, and specialized vendors." *Id.* The Ninth Circuit has acknowledged that the *Brown Shoe* factors "are 'relevant' to the definition of the primary product market," but "it has never expressly held that a plaintiff (and, more specifically, a plaintiff's expert economist) can define the relevant product market *exclusively* by reference to these 'practical indicia.'" *Live Concert*, 863 F. Supp. 2d at 985 (citing *Olin*, 986 F.2d at 1299) (emphasis in original); *see also Ky. Speedway*, 588 F.3d at 918 (ruling "these practical indicia come into play only after the 'outer boundaries of a product market are determined'"); *Reifert v. S. Cent. Wis. MLS Corp.*, 450 F.3d 312, 320 (7th Cir. 2006) (noting the "indicia" named in *Brown Shoe* "are important considerations in defining a market," but "they were never intended to exclude economic analysis altogether").

Dr. Cockburn's *Brown Shoe* analysis is unreliable for several reasons. Most notably, he simply ignores factors incompatible with his theory. There is no discussion in his report of "unique production facilities," "distinct customers," or "specialized vendors." *See McLaughlin Equip. Co. v. Servaas*, 2004 WL 1629603, at *6 (S.D. Ind. Feb. 18, 2004) (striking expert opinions that "selectively appl[ied] some (favorable) factors of an approved methodology").

For the four factors that he does mention, he does so only superficially, rendering his opinion unhelpful at best and misleading at worst. First, with respect to NR's "peculiar characteristics," Dr. Cockburn noted that other anti-aging supplements "do not have the same therapeutic effect or have a different mechanism of action—*i.e.*, they do not act to raise NAD+ levels." (Ex. 1 at 22–27, 29.) But he does nothing to show that these "unique properties" are "economically significant" in identifying the actual field of competition, as required by the law. *Thurman Indus., Inc. v. Pay 'N Pak Stores, Inc.*, 875 F.2d 1369, 1375 (9th Cir. 1989); *Live Concert*, 863 F. Supp. 2d at 993 ("[A]n indispensable component of any market analysis based on the practical indicia identified in *Brown Shoe* is an evaluation of the *economic significance* of these indicia.") (emphasis in original). He provides no evidence or analysis that a different mechanism means that other supplements are not reasonably interchangeable in the minds of consumers—no market research, no consumer surveys, no data analysis of consumer preferences, no anything. And he knows of no "specific examples" of customers saying they were purchasing NR because of those specific "unique properties." (Ex. 2 at 82:10–14, 83:7–10).[2] In fact, the evidence he leans on most heavily to discuss NR's unique characteristics—a 2017 interview with Dr. Charles Brenner, discoverer of NR—suggests exactly the opposite: that some consumers believed "NR was simply an 'expensive vitamin B3 supplement.'" (Ex. 1 at 22–23).[3] Merely because a product is distinguishable is, on its own, meaningless to defining a market. *See In re Super Premium Ice Cream Distribution Antitrust Litig.*, 691 F. Supp. 1262, 1268 (N.D. Cal. 1988) (rejecting attempt "to define markets by price

[2] Citations to deposition testimony refer to the pagination of the original deposition transcripts.

[3] Dr. Cockburn also cites to statements from the deposition of Elysium's own CEO, Eric Marcotulli, touting NR. (Ex. 1 at 26–27.) But Mr. Marcotulli, like Dr. Brenner, is hardly a disinterested party. Given that Elysium sells a dietary supplement that contains NR, he has every reason to distinguish NR from other anti-aging ingredients.

variances or product quality variances" when party lacked evidence that "differences among . . . products, such as physical or price differences, have antitrust significance").[4]

Second, with respect to the "industry or public recognition" factor, Dr. Cockburn points to ChromaDex marketing and investor materials that refer to an "NR market." (Ex. 1 at 28–29). But one cannot, from that evidence, extrapolate a relevant product market. Jonathan B. Baker, *Market Definition: An Analytical Overview*, 74 Antitrust L.J. 129, 139 (2007) ("[T]here is no reason to expect that the concept of market employed by business executives when discussing issues of business strategy or marketing, whether in testimony or documents prepared for business purposes, would be the same as the concept of [a] . . . 'relevant market' defined for the purpose of antitrust analysis."). Among other problems, there is no indication that any statements by ChromaDex "regarding [its] perceptions of competition, market, and the like," were "based on proper research methods." *Berlyn, Inc. v. Gazette Newspapers, Inc.*, 214 F. Supp. 2d 530, 539 (D. Md. 2002); *see also U.S. Horticultural Supply, Inc. v. Scotts Co.*, 2009 WL 89692, at *18 (E.D. Pa. Jan. 13, 2009) (criticizing repackaging of "internal marketing documents" as expert opinion).

Finally, with respect to the last two factors, "distinct prices" and "sensitivity to price changes," Dr. Cockburn purports to identify a "price premium" and lack of price correlation with *one* other product: niacin. (Ex. 1 at 31–33.) By considering just one potential substitute, Dr. Cockburn rendered his opinion "largely irrelevant." *Fresh Del Monte Pineapples*, 2009 WL 3241401, at *11 ("Plaintiffs' evidence indicates, at most, that the MD-2 pineapple is distinct from the Champaka pineapple and certain 'African

[4] *See also W. Parcel Express v. United Parcel Serv. of Am., Inc.*, 65 F. Supp. 2d 1052, 1059–60 (N.D. Cal. 1998) (granting summary judgment against plaintiff's "attempt to define the market on the basis of price or product variances"), *aff'd*, 190 F.3d 974 (9th Cir. 1999); *Unitherm Food Sys., Inc. v. Swift-Eckrich, Inc.*, 375 F.3d 1341, 1363–64 (Fed. Cir. 2004) (granting summary judgment against expert's conclusion that a "unique combination of benefits" means "no substitutes exist for the patented [product]" when "[n]othing in the record addresses whether potential customers of the patented [product] faced with a price increase would shift to other [products] offering different combinations of benefits"), *rev'd on other grounds*, 546 U.S. 394 (2006).

pineapples.' This evidence is largely irrelevant in determining whether the MD-2 pineapple forms a distinct submarket."). Moreover, even if the supposed "price premium" of NR over niacin was properly calculated—and it is not[5]—it is of no import because a "price differential does not suffice to support the existence of two separate markets." *Stubhub, Inc. v. Golden State Warriors, LLC*, 2015 WL 6755594, at *3 (N.D. Cal. Nov. 5, 2015).

Lacking any meaningful *Brown Shoe* analysis, Dr. Cockburn oddly pivots to a completely different market, stating that in "considering the reasonable interchangeability among dietary supplements, one can look for guidance to the analysis of antitrust enforcement agencies in connection with *pharmaceuticals*," which has resulted in market definitions "based on (a) drugs used for treatment of a specific disease or indication, (b) drugs that use the same mechanism of action, and (c) specific compounds." (Ex. 1 at 21–22 (emphasis added).) His report offers no support for this methodological shortcut, such as by showing that it "enjoys general acceptance within the relevant scientific community." *Estate of Barabin*, 740 F.3d at 463. And, in fact, there is strong reason to question it. Courts have long recognized that the "pharmaceutical market functions in a unique way." *Mylan Pharm. Inc. v. Warner Chilcott PLC*, 838 F.3d 421, 428 (3d Cir. 2016). In the prescription drug market (unlike the supplement market), "the doctor selects the drug, which creates a certain separation between the buyer and the manufacturer," and "in most cases, a third-party, such as a health insurance company, pays for the drug." *Id.* "As a result, consumer buying behavior may have less of an impact on manufacturer pricing than it otherwise would in a traditional open market." *Id*. Rather than address these distinctions and explain how he accounted for them, Dr. Cockburn simply declares his analogy "informative." This is the sort of "trust me" testimony that *Daubert* forbids.

[5] Dr. Cockburn concedes that his price differential is not weighted by quantities and may not control for other ingredients. (*See* Ex. 2 at 107:1–6, 109:9–12.)

In sum, Dr. Cockburn's analysis of the relevant market is not based upon sufficient facts or data or the product of reliable principles and methods. It is a mish-mash of observations geared toward a particular result. The Court should exclude it under Rule 702. *See Int'l Tel. & Tel. Corp. v. Gen. Tel. & Elecs. Corp.*, 518 F.2d 913, 932 (9th Cir. 1975) (holding district court clearly erred in finding valid submarket based on only two *Brown Shoe* indicia); *Live Concert*, 863 F. Supp. 2d at 993 (ruling expert's analysis of relevant market—which did not "reliably apply" the horizontal monopolist test, did not calculate the cross-elasticity of demand, and depended almost entirely on a single *Brown Shoe* factor—was "neither sufficiently reliable nor sufficiently helpful to the trier of fact to satisfy Rule 702's requirements").

B. Dr. Cockburn Cannot Offer Legal Opinions Disguised as Expert Testimony

In a section of his report that purports to describe the "scope and nature of ChromaDex's alleged acts of patent misuse," Dr. Cockburn improperly acts as both advocate and judge. (Ex. 1 at 45–54.) He opines that ChromaDex "committed" patent misuse, "impermissibly" broadened the scope of its patent rights, and "coerce[d] its customers" to establish the NIAGEN brand, among other transgressions. (*Id.* at 9, 51, 53.) These opinions do not qualify as expert testimony; they are arguments that should only be made by lawyers to the jury or court.

"[A]n expert may not state his or her opinion as to legal standards, nor may he or she state legal conclusions drawn by applying the law to the facts." *Gable v. Nat'l Broad. Co.*, 727 F. Supp. 2d 815, 835 (C. D. Cal. 2010); *see also McHugh v. United Serv. Auto. Ass'n*, 164 F.3d 451, 454 (9th Cir. 1999). That is precisely what Dr. Cockburn does under the guise of an "economic perspective." (Ex. 1 at 54.) For much of this section of his report, Dr. Cockburn simply describes evidence that he (or Elysium's lawyers) hand-selected from the case. (*Id.* at 46–50.) He then summarily concludes that ChromaDex "committed patent misuse" and acted "impermissibly"—all "gratuitous comments that one would expect [Elysium's] lawyer to argue without any

opinions from an expert." *United States v. Thanh Quoc Hoang*, 891 F. Supp. 2d 1355, 1361 (M.D. Ga. 2012). Dr. Cockburn does not apply any coherent methodology in reaching these conclusions, much less one that is reliable. His opinions should be excluded. *See United States v. Duncan*, 42 F.3d 97, 101 (2d Cir. 1994) ("When an expert undertakes to tell the jury what result to reach, this does not *aid* the jury in making a decision, but rather attempts to substitute the expert's judgment for the jury's.") (emphasis in original); *Thanh Quoc Hoang*, 891 F. Supp. 2d at 1362 (excluding expert's "loosely veiled legal opinion").

Even if these opinions were not improper trial arguments, they are not reliably tied to the facts. Dr. Cockburn's statement that ChromaDex "coerce[d] its customers to expend sales and marketing efforts to establish the NIAGEN brand" is contradicted by undisputed evidence that:

- Only a minority of ChromaDex's customers were contractually required to use the trademark, (Ex. 3 at 108);
- A number of customers who used the NIAGEN mark used it voluntarily because they *wanted to do so*, (*id.*); and
- Some customers used the NIAGEN mark more prominently than required or even suggested by ChromaDex; for example, Live Cell Research, the one of the largest purchasers of NR from 2013 to 2018, chose to use the NIAGEN mark on the front of its product label, even though it was not required to do so, (*id.*).

Dr. Cockburn does not address this contradictory evidence and explain why it does not affect his opinion. He simply ignores it, which underscores that his opinions were developed solely for the purpose of this litigation, after being supplied with Elysium's conclusions. *See Concord Boat Corp.*, 207 F.3d at 1057 (ruling expert's opinion "should not have been admitted because it did not incorporate all aspects of the economic reality of the stern drive engine market").

Finally, allowing Dr. Cockburn to opine as an "expert" on ultimate issues (*e.g.*, whether ChromaDex "committed patent misuse") creates a risk of prejudice and the

likelihood of misleading the jury that far exceeds any probative value of his opinions. Fed. R. Evid. 403. These opinions should be excluded.

C. Dr. Cockburn's Opinions Regarding Anticompetitive Effects Are Not Based on Economic Analysis

Dr. Cockburn next opines that ChromaDex's supposed patent misuse resulted in "significant, ongoing anticompetitive effects," which "cannot be fully dissipated." (Ex. 1 at 9, 64.) These opinions are not helpful to the Court for two reasons. First, as discussed above, they are not based on a properly defined market. *In re Nat'l Collegiate Athletic Ass'n Grant-in-Aid Cap Antitrust Litig.*, 2018 WL 1948593, at *2–3 (N.D. Cal. Apr. 25, 2018) (excluding expert testimony on competitive effects as irrelevant because expert failed to base opinions on the correct relevant market).

Second, his opinions are not based on any economic analysis or coherent methodology. Dr. Cockburn again provides only a one-sided evidentiary summary and then offers his legal conclusions that competition was "significant[ly]" harmed. *See Am. Banana Co.*, 407 F. App'x at 523 (holding district court did not abuse its discretion excluding expert's opinion about anticompetitive effect because the opinion "recited 'selective facts,' drew legal conclusions within the province of the jury, and failed to sufficiently explain the alleged 'reasoned economic analysis' underlying his conclusions"). Dr. Cockburn seeks to testify, for example, that ChromaDex's trademark licenses caused a "decrease in brand competition," that ultimately enabled ChromaDex to terminate its supply agreements and clear the path for its own product. (Ex. 1 at 54–57.) But he provides no analysis to show that *consumers* suffered any actual harm, such as through higher prices or reduced quality, even though he admits that the ultimate question in assessing anticompetitive effects is "social welfare," and in particular, "the impact on consumers." (Ex. 2 at 139:5–12.) This error—conflating harm to competitors with harm to competition—infects the entire section of his report on anticompetitive effects. As such, his opinions are of no help to a finder of fact, and should be excluded.

IV. THE COURT SHOULD EXCLUDE OPINIONS BY DR. COCKBURN ABOUT ELYSIUM'S ALLEGED DAMAGES

In addition to his opinions about patent misuse, Dr. Cockburn provides damages estimates in connection with various alleged breaches of contract. Among his opinions are that:

- Elysium experienced somewhere between $68,355 and $571,981 in lost profits from lost sales it could have made if ChromaDex had not supplied ingredients to third parties making allegedly similar products (the "**lost profits opinion**"). (Ex. 1 at 9; *see also id.* at 67–72.)
- Elysium overpaid $221,000 to ChromaDex for ingredients that were not made according to allegedly agreed upon specifications (the "**cGMP opinion**"). (*Id.* at 9; *see also* id. at 72–73.)

These opinions are not fit for a jury.

A. Dr. Cockburn's Lost Profits Opinion Invites Rank Speculation

Dr. Cockburn's lost profits opinion is based on estimates of sales Elysium supposedly ***could have*** captured if three allegedly similar supplements did not exist. (Ex. 1 at 9, 68–72.) At the threshold, Dr. Cockburn accepts Elysium's interpretation of the contract term that provided Elysium exclusivity over sales of products combining "NIAGEN and pTeroPure (or ingredients substantially similar thereto)" (the "Exclusivity Provision"). (Ex. 4 at 113.) In other words, he assumes (without any factual support) that a product containing NR and a completely different ingredient—resveratrol—is covered by the Exclusivity Provision.

From there, Dr. Cockburn provides an estimated range of possible consumer behavior with a spread so huge as to be unreliable on its face. Dr. Cockburn estimates, for example, that "as much as 90%, but no less than 10%" of the sales for one third-party supplement with NR and resveratrol (Mitoboost) "could have been captured in the but-for world by the equivalent amount of BASIS sales." (Ex. 1 at 70.) He guesses at similarly wide ranges for the other two NR and resveratrol products, all supposedly based on his "knowledge and experience in analyzing demand for pharmaceutical and OTC products, and allowing for [] product differences." (*Id.* at 70–71; *see also* Ex. 2

at 232:11–16.) He fails to explain, however, how he arrived at any particular number—*e.g.*, why the upper bound for the Mitoboost product sales is 90% and not 80% or 70%, or why the lower bound is 10% and not 5% or 1%. He appears to have picked his numbers out of thin air.

Dr. Cockburn admits that he did not review any data in reaching his conclusions. (Ex. 2 at 236:20–23.) And he provides no formula or calculation that would enable someone to replicate his analysis in a predictable manner. (*Id.* at 236:10–12 ("[T]here is no formulaic approach to this or hard-and-fast rule.").) Worse, his analysis relies on a number of untested assumptions; for example, that Elysium would have had the inventory and marketing capability to make the alleged lost sales; that customers would have viewed pterostilbene and resveratrol as "equivalent in terms of therapeutic effect"; that customers make purchasing decisions *based* on that "therapeutic effect"; and that "pill splitting is a common behavior" (even though he is "not aware of any study which has looked at this in any context of dietary supplements"). (Ex. 1 at 68–69; Ex. 2 at 217:23–218:3, 219:9–220:4, 226:2–7, 247:3–18.)

Dr. Cockburn is surely an expert in the practice of *ipse dixit*; he seems to believe the Court should trust what he says merely because he says it. (Ex. 2 at 236:8–9 ("I have a strong sense of what the likely potential is for substitution."); 229:10–18 ("[M]y evaluation of this marketplace, these products, their pricing, volumes, you know, in light of my—and I'll cast modesty—modesty to the winds—considerable expertise in studying demand for prescription and OTC pharmaceuticals suggests to me that these are reasonable bounds . . . .").) But a "trial court's gatekeeping function requires more than simply 'taking the expert's word for it.'" Fed. R. Evid. 702 advisory committee's note (2000). Experience and intuition are no substitute for methodology. *See Open Text S.A. v. Box, Inc.*, 2015 WL 349197, *6 (N.D. Cal. Jan. 23, 2015) (excluding opinion based solely on expert's "'experience'—an abstraction not visible to the eyes of the Court, the jury, and opposing counsel, or testable in the crucible of cross-examination"); *GPNE Corp. v. Apple, Inc.*, 2014 WL 1494247, at *6 (N.D. Cal. Apr. 16, 2014) ("Apple

cannot cross-examine Mr. Dansky on his assertions, all of which fundamentally reduce to taking his opinion based on 30 years of experience for granted."). Because there is no way that Dr. Cockburn's opinion "can be challenged in any objective sense, as it is simply his subjective judgment about how various factors fit together," exclusion is the appropriate remedy. *Champagne Metals v. Ken-Mac Metals, Inc.*, 2008 WL 5205204, at *11 (W.D. Okla. Dec. 11, 2008); *see also Open Text S.A.*, 2015 WL 349197, at *6 (excluding "black box" damages estimate); *GPNE*, 2014 WL 1494247, at *5 (same).

Moreover, even if Dr. Cockburn's process was replicable (and it is not), his estimates are so imprecise that they would provide no help to a trier of fact. Providing a range of "as much as 90%, but no less than 10%," for example, is not much better than saying "maybe a lot, or maybe a little." Dr. Cockburn concedes that "there's a relatively wide band of uncertainty around how much of that demand could be reasonably assumed to be taken up by BASIS in a counterfactual world and for how much of it consumers would have gone elsewhere." (Ex. 2 at 228:3–11.) He also admits that he cannot be any more precise, even though he claims to be an expert economist (at least when he "throws modesty to the winds"). (*Id.* at 229:13; 242:23–243:4 ("I believe the best that can be done here, given the limited data that's available and the nature of this marketplace, is to offer upper and lower bounds . . . .").) In other words, he is inviting the jury—non-experts who would be a captive audience for his imprecise "expertise"—to throw a dart at numbers somewhere within those "relatively wide" bands. Because his opinion merely invites the jury to speculate about possible damages, as he concedes, it should be excluded.

B. Dr. Cockburn's cGMP Opinion Suffers From Enormous Analytical Gaps

Dr. Cockburn provides another damages estimate, tied to ChromaDex's alleged breach of the "current good manufacturing practices" provision. (Ex. 1 at 9, 72–73.) Elysium claims that ChromaDex promised to deliver ingredients manufactured according to a specific regulatory standard (cGMPs for pharmaceuticals) but failed to

do so. (*Id.* at 72.) Dr. Cockburn opines that if Elysium had known that the ingredients were manufactured according to a different standard (cGMPs for dietary ingredients), it would have negotiated a lower price, by $221,000. (*Id.* at 73.) He gets to that number by comparing the annual "average price" paid by Elysium for 2014–2016 with the average price paid by three supposedly "comparable customers," whose agreements did not require pharmaceutical cGMP compliance and each of which received the exact same NR that Elysium received, which was manufactured under dietary ingredient cGMPs as required by FDA regulations. (*Id.*)

His cGMP damages analysis suffers from enormous analytical gaps and is inherently speculative. For one thing, Dr. Cockburn assumes that Elysium would have been able to contract for a lower price per kilogram for NR, which by necessity is also an assumption that *ChromaDex* would have *agreed* to sell NR to Elysium for a lower price. There are no facts to support that assumption. Rather, to reach his conclusion, Dr. Cockburn assumes that in his imaginary "but for" world, ChromaDex's "minimum willingness to sell" would be greater than Elysium's "maximum willingness to pay"; otherwise (as he concedes) the parties "wouldn't transact." (Ex. 2 at 258:19–260:19; 261:7–10.) But while he admits that ChromaDex's manufacturing costs using pharmaceutical cGMPs would have been higher, Dr. Cockburn did not perform any analysis to determine how much higher, or how those higher costs affected ChromaDex's willingness to sell. (*Id.* at 252:16–20; 261:4–6.) Dr. Cockburn also assumes that Elysium's willingness to pay would go down, but he ignored direct evidence that Elysium actually paid substantially *more* per kilogram for NR from both of its alternative NR manufacturers that was—like ChromaDex's—made under dietary ingredient cGMPs. (Exs. 5, 6 & 7; *see also* Ex. 3 at 105–06.) Plainly, Elysium's willingness to pay for NR made under dietary ingredient cGMP standards was still

higher than what it ever paid ChromaDex, and that fact fatally undermines Dr. Cockburn's cGMP opinion.[6]

Likewise, Dr. Cockburn assumes that the *entire* difference in the average prices he compared was because of theoretical differences in negotiated cGMP standards. Again, no support. His report contains no evidence that cGMP compliance actually affected the negotiated price, or was even discussed during negotiations, between ChromaDex and *any* of its NR customers. (Ex. 2 at 264:5–12 ("Q: And did you review any evidence about the negotiations between ChromaDex and any of its NR customers? A: No.") He also ignores evidence that each of ChromaDex's supply relationships arose from a "unique discussion," negotiated on a case-by-case basis, considering factors such as "what the customer's plans were, where they intended to go, what their product was going to look like, how they were going to approach the customer base, [and] what volumes they might give." (Ex. 9 at 69:8–15.) Because Dr. Cockburn's opinion rests on layers of unfounded assumptions, there "is simply too great an analytical gap between the data and the opinion proffered." *Gen. Elec.*, 522 U.S. at 146.

Even more problematic is that Dr. Cockburn also "all but 'cherry picked' the data he wanted to use." *Fail-Safe, L.L.C. v. A.O. Smith Corp.*, 744 F. Supp. 2d 870, 889 (E.D. Wis. 2010). This provides "another strong reason to conclude that the witness utilized an unreliable methodology." *Id.*; *see also Pierson v. Orlando Health*, 2010 WL 3447496, at *3, 5 (M.D. Fla. Aug. 30, 2010) (excluding opinion where expert "made assumptions and selectively chose data, rendering his opinions unreliable"). For example, Dr. Cockburn picks three "comparable customers" and relies on them for his cGMP damages opinion, but his report provides no method by which he picked them. (Ex. 1 at 73.) Dr. Cockburn inexplicably ignores other NR customers, such as Life

[6] Dr. Cockburn also does not address how his opinion stands given the fact that Elysium—without protest—willingly ordered, accepted, and sold for a profit huge amounts of NR that it knew was not made according to pharmaceutical cGMP standards, all without changing its consumer product's price. (Ex. 8 at 121:6–19; 122:14–123:2; 269:1-6; 256:24–257:6.)

Extension or 5Linx Enterprises, each of which would have lowered Dr. Cockburn's damages estimate because each purchased large amounts of NR at higher average prices than Elysium. (*See* Ex. 10.) Further, in calculating Elysium's supposedly "average" price for 2016, he omitted Elysium's 3,000-kilogram order of NR placed on June 30, 2016, that (not coincidentally) would have lowered Elysium's average price for 2016 below his supposed "but-for" price, thereby eliminating any damages for 2016. (Ex. 2 at 279:8–280:24.) Dr. Cockburn's cGMP opinion is consequently unreliable and unhelpful, and should be excluded.

V. DR. COCKBURN IS NOT PERMITTED TO OFFER LEGAL OPINIONS UNDER THE GUISE OF ECONOMIC ANALYSIS TO REBUT CHROMADEX'S CLAIMS

Dr. Cockburn's rebuttal report to ChromaDex's opening damages expert report is little more than a supplemental legal brief. He opines about what the law requires and includes several paragraphs of analysis with the exact same legal arguments about causation and apportionment that Elysium makes in its summary judgment brief. (*Compare, e.g.*, Ex. 11 at 260, 267–68, 270–72 (analyzing and applying *O2 Micro International Ltd.* case) *with* Dkt. 230-1 at 14 (same).) He then purports to apply that "legal requirement" by providing a personal interpretation of selected (and often disputed) evidence. Dr. Cockburn applies no "specialized knowledge" in this analysis. Fed. R. Evid. 702. To the contrary, nearly every opinion rendered in his rebuttal report could just as easily be rendered, and has been rendered, by Elysium's attorneys. Elysium simply wants to give these jury arguments the veneer of an expert.

To the extent Dr. Cockburn intends to simply "rehash[] otherwise admissible evidence about which [the expert] has no personal knowledge," his testimony should be excluded. *Highland Capital Mgmt., L.P. v. Schneider*, 379 F. Supp. 2d 461, 469 (S.D.N.Y. 2005). "Such evidence 'is properly presented through percipient witnesses and documentary evidence,' not through expert testimony." *Fujifilm Corp. v. Motorola Mobility LLC*, 2015 WL 757575, at *27 (N.D. Cal. Feb. 20, 2015). To the extent he intends to testify that ChromaDex's legal claims are "unsupported," (Ex. 11 at 303), or

opine about what ChromaDex "must show" as a legal matter, (*id.* at 299), his opinions are likewise improper, and should be excluded. *See AFMS*, 2014 WL 12515335, at *8 ("Brotman admits his method is precisely what courts forbid; he applies the law to the facts of the case."); *McDevitt v. Guenther*, 522 F. Supp. 2d 1272, 1294 (D. Haw. 2007) ("[T]he Court finds that large portions of Mr. Kleintop's report are inadmissible because he makes legal conclusions, comments on the applicable law, and applies the law to the facts, thus invading the province of the court and the jury."). The opinions in his rebuttal report should therefore be excluded.

VI. CONCLUSION

ChromaDex respectfully requests that Dr. Cockburn be precluded from offering the opinions discussed above pursuant to Federal Rules of Evidence 702 and 403.

Dated: August 21, 2019

COOLEY LLP
MICHAEL A. ATTANASIO (151529)
BARRETT J. ANDERSON (318539)
CRAIG E. TENBROECK (287848)
SOPHIA M. RIOS (305801)
JAYME B. STATEN (317034)

/s/ Michael A. Attanasio
Michael A. Attanasio (151529)

Attorneys for Plaintiff and Counter-Defendant ChromaDex, Inc.