

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

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| <i>In re Elysium Health-ChromaDex Litigation</i> | : | CASE NO <u>Case No.</u> 1:17-CV-07394- |
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| | : | |
| | : | ANSWER TO FIRST AMENDED |
| | : | COMPLAINT AND |
| | : | SECOND <u>[PROPOSED]</u> <u>THIRD</u> |
| | : | AMENDED COUNTERCLAIMS |
| | : | |
| | : | <u>DEMAND FOR JURY TRIAL</u> |
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DEMAND FOR JURY TRIAL

Elysium requests a trial by jury for all issues so triable.

COUNTERCLAIMS

Elysium Health, Inc. (“Elysium”) brings these counterclaims for false advertising, deceptive business practices, and copyright infringement against ChromaDex, Inc. (“ChromaDex”). Elysium makes the following allegations upon personal knowledge as to its own acts, and on information and belief as to all other matters, and alleges as follows:

NATURE OF THE CASE

1. Elysium sells a dietary supplement, Basis, that combines nicotinamide riboside (sometimes called “NR”) and pterostilbene. Elysium purchased NR and pterostilbene from ChromaDex from 2014 until mid-2016, when Elysium learned that ChromaDex was in breach of multiple provisions of the parties’ contracts. Further investigation revealed that beyond simply breaching those contracts, ChromaDex had affirmatively attempted to deceive Elysium about

those breaches by, among other things, concealing information from Elysium and making affirmative misrepresentations about its dealings with other customers.

2. Over time, the reason for ChromaDex's poor treatment of Elysium became apparent. ChromaDex proved interested in supplying Elysium with NR only long enough for Elysium to build a consumer base. Once it had, ChromaDex organized a campaign to influence consumers away from Elysium (and other competitors) and eliminate Elysium.

3. ChromaDex's plot to eliminate Elysium failed, and it now sells NR direct to consumers, as does Elysium, through a product it calls Tru Niagen. ChromaDex now seeks to eliminate Elysium through litigation, including engaging in the ultimate bad faith of suing Elysium for the exact same advertising practices in which ChromaDex itself engages. In its claim for false advertising under the Lanham Act, ChromaDex accuses Elysium of improperly relying on the legitimacy of Elysium's Nobel Prize-winning advisors and partner educational institutions, yet ChromaDex does just that in an Amazon advertisement for its competing product Tru Niagen, touting its claimed "160+ research collaborations with teams at Dartmouth, MIT & more," and "Nobel Prize Winning Advisors from Stanford & Cambridge":



4. Even worse, ChromaDex affirmatively deceives its own customers into believing that Tru Niagen is, like Basis, clinically proven to raise NAD levels (it is not – in fact, clinical trials prove the opposite, that Tru Niagen has no effect on NAD levels), that Tru Niagen is more effective than Basis (it is not), that ChromaDex discovered NR (it did not), that ChromaDex is the only seller of NR (it is not), that Niagen cures diseases (it has not been shown to), and that FDA has reviewed Tru Niagen for safety and efficacy (it has not).

5. ChromaDex also misleads its customers by giving the false impression that it is more responsible for the funding and scientific research behind NR than it could ever truthfully claim to be.

6. In connection with its campaign to mislead consumers, ChromaDex has also stolen Elysium's copyrighted and proprietary works and used them as its own without attribution in its national advertising campaign.

7. Elysium therefore brings these counterclaims for false advertising, unfair and deceptive business practices, and copyright infringement arising out of ChromaDex's misleading national advertising campaign to sell its dietary supplement, Tru Niagen, the sole active ingredient in which is ChromaDex's Niagen, ChromaDex's trade name for NR. ChromaDex's false and misleading representations are willful and intentional because ChromaDex knows they are not true. ChromaDex is engaged in a pattern of behavior aimed at deceiving customers and harming its competitor and former largest customer, Elysium.

8. ChromaDex falsely advertises the efficacy of its Tru Niagen product and falsely claims that Tru Niagen has been clinically proven to raise NAD levels. The claim that Tru Niagen has been clinically proven to increase NAD is a foundational pillar of ChromaDex's advertising campaign, repeated over and over on the website through which it sells Tru Niagen and in promotion statements made on behalf of the company by its executives and its Chief Scientific Advisor, Charles Brenner. In reality, Tru Niagen has not been clinically proven to work at all.¹

9. ChromaDex continues to sell NR as an ingredient to other dietary supplement companies and, apart from when it is trying to mislead consumers, its advertising distinguishes between Niagen, the ChromaDex brand name for its NR ingredient product, and Tru Niagen, the direct-to-consumer dietary supplement product containing NR at 300 mg per serving.

¹ Moreover, although ChromaDex now advertises Tru Niagen as a product that will boost physical performance, clinical data again refutes that contention, demonstrating no significant increase in various measures of motor function and other measures of exercise performance between study participants taking Tru Niagen and those taking a placebo.

10. ChromaDex continually advertises Tru Niagen as being “clinically proven” to raise NAD levels. This is utterly false. The ~~sole~~[first of two](#) published human clinical trial that has assessed the effects of Tru Niagen (*i.e.*, NR at an intake of 300 mg) found that Tru Niagen had *no* effect on NAD levels. [The second published human clinical trial manipulated baseline NAD levels to create an artificial increase in NAD levels.](#) ChromaDex has expressly perpetuated this lie in its advertising, such as in an October 24, 2018 press release claiming that “Niagen was clinically-studied at 300 mg to increase NAD in 2016, published in the journal *Nature Communications*” and by labeling Tru Niagen as “clinically proven” to raise NAD. It has also misled consumers by claiming that Tru Niagen raises NAD levels by 60% while omitting or minimizing that this figure came from a study that did not test Tru Niagen. Instead, that study tested Niagen at a dosage of 1,000 mg, more than three times Tru Niagen’s intake level, and omitting that, of the two published clinical trials assessing the effect of 1,000 mg of NR on NAD levels, one showed the 60% increase while the other showed that it had no effect at all. And because Tru Niagen does not raise NAD as ChromaDex claims, all of its other advertising claims that are dependent on the notion that Tru Niagen actually raises NAD – such as its claims that Tru Niagen improves cellular health, improves DNA health, and boosts mitochondrial health and energy – are equally false.

11. On the website ChromaDex uses to market Tru Niagen, ChromaDex continues to falsely claim that Tru Niagen has been clinically proven to increase NAD. Its present claim is that Tru Niagen increases NAD by 40 to 50%. Surely not coincidentally, these claimed results equal or slightly exceed the clinically-proven results for Elysium’s Basis. That ChromaDex has added specificity to its claims renders it no less false, because it is still belied

by the results of ChromaDex's October 2016 published clinical trial results, which showed that Tru Niagen (*i.e.*, 300 mg of NR) did not raise NAD levels.

12. Before it started to make its current 40 to 50% claim (and before Elysium first brought these counterclaims challenging ChromaDex's false advertising), ChromaDex's website promoting Tru Niagen included an even more audacious claim by way of a chart labeled, in large, bold font, "NIAGEN® increases NAD by 60%."

13. ChromaDex's claim that Tru Niagen raised NAD levels by 60% was also fundamentally untrue, because the same clinical trial that puts the lie to its claim that 300 mg of Tru Niagen daily raises NAD also showed *no statistically significant increase in NAD levels at a dosage of 1,000 mg per day*, and thus debunked ChromaDex's claim of a 60% NAD increase at that intake.²

14. Statistical significance of is of vital importance in interpreting and understanding the results of clinical trials. Results that lack statistical significance are of virtually no value in assessing the results of a clinical trial, because they provide no confidence that the reported results are not due to random chance. Indeed, in response to a recently-published study addressing negative effects caused by Niagen, ChromaDex's now-Chief Scientific Advisor, Charles Brenner, publicly questioned the rationale for the study's publication expressly because the study's results lacked statistical significance ("...not statistically significant. why publish?").

² ChromaDex's claim that Tru Niagen increased NAD by 60% was misleading in another way as well. Buried in small, faint lettering under that chart was language that revealed that those results were seen in 21 people taking 1,000 mg of Niagen per day—a level well above the 250 mg per day recommended dosage of Tru Niagen ChromaDex was marketing at the time. Nowhere in connection with that chart, however, did ChromaDex reveal that 1,000 mg per day was four times the amount it recommended its customers take.

15. Further demonstrating the importance of statistical significance, in an effort to camouflage the fact that its own study showed Tru Niagen failed to raise NAD, ChromaDex directed the authors of the study—which had been carried out under Brenner’s supervision—to present misleadingly aggregated summaries of the study data to conceal the absence of any statistically significant effect on NAD at doses of either 300 mg or 1,000 mg per day.

16. Evidently aware that its misrepresentations about the supposed effect of Tru Niagen on NAD could be discovered by anyone knowledgeable about statistical analysis who took a look at the data underlying the October 2016 published study, ChromaDex took matters into its own hands to manipulate the design of a second clinical trial by requiring its participants to adhere to a restrictive diet that would artificially impact their NAD levels in an effort to manufacture the effects that the October 2016 trial had failed to demonstrate.

17. For nearly over two years, ChromaDex ~~has vaguely promised the imminent publication of that second clinical trial, and has even more recently claimed (despite the conspicuous absence of~~ tried and failed to publish the second, manipulated clinical trial, before finally publishing in July 2019. Before and after publication), ChromaDex claimed that the second trial demonstrates that Tru Niagen increases NAD levels. ~~Even if that unpublished study shows that~~ This result, however, ~~the result~~ is irredeemably tainted by ChromaDex’s manipulation of the study criteria to gin up the desired effects by requiring study participants to adhere to an extreme, and potentially unsafe, diet that would have the effect of artificially manipulating their NAD levels.

18. Perhaps even more concerning, the second trial revealed that Tru Niagen is untrustworthy, unsafe and dangerous to consumers. The study showed that Tru Niagen causes

a critical depletion in white blood cell count in consumers at the recommend dosage, exposing them—particularly elderly consumers—to increased vulnerability to infection.

19. ~~18.~~ ChromaDex’s advertisements claiming that Tru Niagen is ~~clinically-proven~~ trusted, safe, and clinically proven to raise NAD levels, ~~whether based on its published or unpublished clinical trials, are substantially~~ are false and misleading, and are and were intended to lure customers away from Elysium, which truthfully discloses that, at its recommended daily intake (250 mg of NR and 50 mg of pterostilbene), its product Basis has been shown to increase NAD levels by 40% and is safe to consumers.

20. ~~19.~~ If consumers knew that Tru Niagen was unsafe, untrustworthy, and not in fact clinically proven to raise NAD, and that the data from a clinical trial commissioned by ChromaDex actually demonstrated that 300 mg of Niagen did not increase NAD, they would not purchase the product, and would instead likely buy Elysium’s Basis, which is clinically proven to work to raise NAD safely.

21. ~~20.~~ In large part through the website it uses to advertise its product to the public, ChromaDex tries to create among consumers the false impression that it is responsible for the discovery of NR. In truth, NR was actually discovered decades before ChromaDex even existed.

22. ~~21.~~ ChromaDex also promotes the false impression among consumers and the public at large that it is the only seller of NR, utilizing a marketing campaign designed to mislead consumers into equating ChromaDex’s trade name—Niagen—with NR, in an effort to, among other things, discredit other competing products containing NR that do not use the trade name “Niagen,” such as Elysium’s product Basis. ChromaDex knows this advertising is false because it knows that Elysium sells NR in its product Basis.

23. ~~22.~~ Building on this scheme of dishonestly claiming credit for NR's discovery and falsely claiming to be the exclusive seller of NR, ChromaDex further attempts to deceive consumers and the public at large and deceptively claimed its product had been "rigorously tested" and "rigorously reviewed" by the United States Food & Drug Administration ("FDA") for both safety and efficacy, when in fact FDA had done neither. [ChromaDex further claims its product is backed by the "world's four leading regulatory bodies\[.\]"](#) Again, ChromaDex knew its claims were false [and misleading](#).

24. ~~23.~~ On its Tru Niagen website, ChromaDex claims it has "3 FDA Safety Reviews." Those purported "Safety Reviews" are submissions to FDA in which ChromaDex has itself claimed the NR it sells is safe, and FDA has merely accepted those submissions without conducting any independent review.

25. ~~24.~~ Moreover, any response by FDA was irrevocably tainted by ChromaDex's falsehoods in its submissions. In its initial submission to FDA, ChromaDex falsely represented that its product did not contain detectable levels of acetamide, an industrial solvent and plasticizer.

26. ~~25.~~ In fact, ChromaDex's NR contained acetamide in such substantial quantities that it caused virtually all of ChromaDex's customers who re-sold its NR into California to violate a California voter initiative entitled the Safe Drinking Water and Toxic Enforcement Act of 1986, also known as Proposition 65, which requires warning labels on products containing substances hazardous to human health. ChromaDex also sold its own Tru Niagen into California in violation of Proposition 65.

27. ~~26.~~ ChromaDex's initial FDA submissions also claimed its NR was safe at a daily intake of up to 180 mg a day, yet it never sold its product at a recommended daily intake below 250 mg a day, a fact it did not disclose to the FDA in those submissions.

28. ~~27.~~ Moreover, although the advertising that ChromaDex publicizes and disseminates on its website is designed to, and does, create the further false impression that FDA has assessed the efficacy of ChromaDex's NR, neither of the submissions ChromaDex made to FDA even addressed the issue.

29. ~~28.~~ FDA has thus never even *considered* the question of whether ChromaDex's NR is effective, much less concluded so after rigorous testing and review, as ChromaDex so misleadingly advertised. ChromaDex's false, misleading and deceptive statements are aimed at increasing its own sales, misleading consumers, and harming its competitor, Elysium.

30. ~~29.~~ ChromaDex also uses its advertising to falsely disparage its more successful competitor, Elysium.

31. ~~30.~~ ChromaDex first claims that it is the only seller of NR, and goes so far as to accuse Elysium's NR of being "counterfeit." This allegation is manifestly untrue, as ChromaDex knows full well that Elysium sells its own NR-containing product, Basis, in competition with ChromaDex both in New York and across the country.

32. ~~31.~~ Indeed, ChromaDex claims to have performed compositional testing of Elysium's product that reveals Basis contains NR.

33. ~~32.~~ Next, ChromaDex falsely claims that its NR is the only NR that has been tested for safety.

34. ~~33.~~ In reality, the NR in Elysium’s Basis has undergone extensive safety testing, and enjoys Generally Recognized As Safe (“GRAS”) status, just as ChromaDex claims to be the case for its own NR.

35. ~~34.~~ ChromaDex does not limit its false advertising to its lies about discovering NR, being the only seller of NR, FDA’s supposed “rigorous review” of the safety of ChromaDex’s NR, or even its untruths disparaging Elysium—all of which are intended to influence the purchasing decisions of consumers in New York and across the country.

36. ~~35.~~ In its craven pursuit of profit above all else, ChromaDex cynically preys on those suffering from life-altering, and even life-threatening, diseases like Alzheimer’s disease, Parkinson’s disease, and heart disease, by making utterly unfounded claims that its product offers them a cure.

37. ~~36.~~ ChromaDex perpetuates this deceptive advertising campaign by placing targeted advertisements—through which customers are a simple click away from ChromaDex’s website on which its product can be purchased—on an affiliate website maintained by one of its shareholders with the grandiose title “Right of Assembly.” This website almost exclusively touts ChromaDex’s product and chronicles various disputes between ChromaDex and Elysium. That blogger is an affiliate of ChromaDex who is compensated for every sale made by ChromaDex to a consumer who navigates to ChromaDex’s Tru Niagen website from the blog and makes a purchase, and ChromaDex is as responsible for the content of the blogger’s statements as if it made them directly. Moreover, by taking the affirmative intentional step of placing its advertising on the blog, ChromaDex impliedly endorses the claims made by the blogger.

38. ~~37.~~ Appended to nearly every post on that blog was a statement that FDA will not permit ChromaDex to make claims that its NR product treats any disease, but that the affiliate does not believe those same restrictions apply to him, after which he claims that ChromaDex's NR product can prevent or treat a whole litany of diseases. ChromaDex exploits the affiliate's recklessness by endorsing those disease claims by placing targeted advertising on the blog. This conduct is not just unlawful, it is reprehensible.

39. ~~38.~~ ChromaDex also misleads its customers by giving the false impression that it is more responsible for the funding and scientific research behind NR than it could ever truthfully claim to be.

40. ~~39.~~ Besides ChromaDex's false promises to and attempts to mislead consumers, as well as its attempts to smear Basis, ChromaDex also took Elysium's intellectual property and pawned it off as its own. In 2017, Elysium created a series of promotional videos describing the effects of consumption of NR on the human body and advertising Basis, for which Elysium has exclusive rights under U.S. copyrights. ChromaDex misappropriated elements of these videos and subsequently published a video which incorporated substantial portions (including verbatim statements) of Elysium's copyright-protected videos.

41. ~~40.~~ Apart from ChromaDex's unauthorized copying of Elysium's videos, ChromaDex has also improperly copied Elysium's original images in its advertising.

42. ~~41.~~ Through these Counterclaims, Elysium seeks to (a) protect unsuspecting consumers in New York and across the country, as well as the public at large, from purchasing ChromaDex's Tru Niagen product based on ChromaDex's deceptive and false claims that it discovered NR, is the only seller of NR, sells NR that has been rigorously reviewed by FDA for both safety and efficacy, sells a product that is more efficacious than it actually is at the

recommended intake, sells a product that is safe and trusted, sells NR that has been clinically proven to raise NAD levels by 40 to 60% when it has not been so proven, sells NR that prevents or treats numerous serious diseases, and is more responsible for the funding and scientific research behind NR than it could ever truthfully claim to be; and (b) to recover damages for the harm suffered by Elysium as a result of ChromaDex's willful and predatory conduct, including its unauthorized copying of Elysium's copyrighted and proprietary works.

FACTUAL ALLEGATIONS

43. ~~42.~~ Both ChromaDex's product Tru Niagen and Elysium's product Basis contain NR as an ingredient in their dietary supplements, although Elysium's Basis also contains pterostilbene. Both ChromaDex and Elysium market their products in New York and in interstate commerce nationwide through their respective websites. Elysium is a former customer of ChromaDex, which used to supply NR to Elysium. Elysium now has another source of supply for NR. ChromaDex and Elysium sell supplements containing NR directly to consumers, and are competitors of each other.

44. ~~43.~~ ChromaDex markets Tru Niagen nationwide through the promotion of its interactive website at www.TruNiagen.com, through which it sells its Tru Niagen direct to consumers. The website displays "Buy Now" buttons prominently in multiple locations, which direct visitors to a page where they can buy Tru Niagen in lots of one, three, or six bottles, or can subscribe to receive three bottles every three months. Through this website, ChromaDex has knowingly transacted for the sale of Tru Niagen to New York residents. It has further targeted New York residents through additional advertising, by presenting at industry conferences in New York, and otherwise.

ChromaDex Misleadingly Advertises the Efficacy of Its Product to Create the False Impression that Tru Niagen Works, and is More Effective Than Elysium's Basis

45. ~~44.~~ Elysium's Basis combines 250 mg of NR with 50 mg of pterostilbene to synergistic effect, and has been clinically proven to raise NAD levels by 40%.

46. ~~45.~~ In a transparent attempt to convince consumers that its Tru Niagen works like Elysium's Basis does, ChromaDex has repeatedly made false claims that its product also is clinically proven to raise NAD when the results of its own clinical trials show the opposite. Indeed, the claim that Tru Niagen is clinically proven to work is the foundation of ChromaDex's advertising.

47. ~~46.~~ In an October 24, 2018 press release, ChromaDex announced a change to Tru Niagen to make it a direct-to-consumer dietary supplement product containing NR at 300 mg per serving (versus its prior 250 mg of NR per serving). ChromaDex falsely claimed the increase would "provide an extra boost in NAD levels" and that "Niagen was clinically-studied at 300 mg to increase NAD in 2016, published in the journal *Nature Communications*."

48. ~~47.~~ Since that October 2018 press release, ChromaDex has continued its false claims, now advertising, including on the website through which it sells Tru Niagen, that Tru Niagen raises NAD by 40 to 50% (<https://www.truniagen.com/science.html>). That purported increase is surely no coincidence; it equals or slightly exceeds Elysium's clinically proven results for Basis. But unlike the results delivered by Basis, the results claimed by ChromaDex for Tru Niagen do not exist.

49. ~~48.~~ In fact, the study published in *Nature Communications* to which ChromaDex's press release referred, which was commissioned by ChromaDex and overseen by

its current Chief Scientific Advisor, Charles Brenner (the “Trammell Study”³), demonstrates ChromaDex’s claims to be false. The Trammell Study actually showed no statistically significant increase in NAD levels among participants taking Tru Niagen. Or in other words,

the Trammell

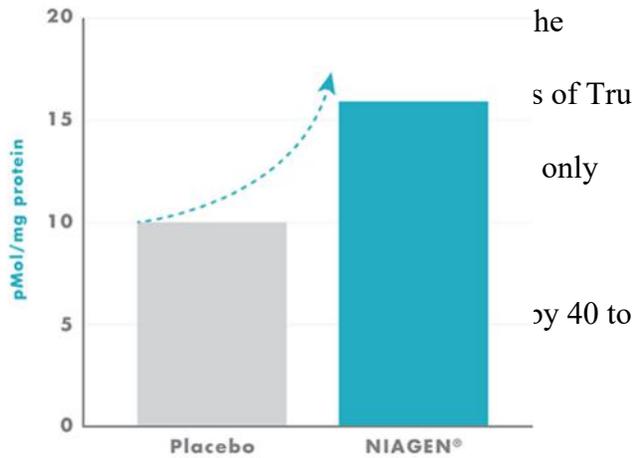
Trammell

Niagen. **NIAGEN® increases NAD by 60%[‡]**
published

[50](#)

50%, Chr

“NIAGEN



Martens, et al., 2018

[‡] On average at 1000 mg / day for 6 weeks in 21 people

³ Trammell, et al, *Nicotinamide Riboside is Uniquely and Orally Bioavailable in Mice and Humans*, 7 NATURE COMMUNICATIONS 12948, October 10, 2016, available at <https://www.nature.com/articles/ncomms12948#f8>.

51. ~~50.~~ The Trammell Study also debunked this claim, showing *no statistically significant increase in NAD levels even at an intake of 1,000 mg per day.*

52. ~~51.~~ Statistical significance of results is of vital importance in clinical trials. For one, statistically-significant results are susceptible of being replicated, allowing other researchers to validate and build on the results. Moreover, and more importantly, statistical significance of results shows that they are not the result of random chance. In other words, statistical significance is what makes results meaningful, and allows observers to draw valid conclusions from them.

53. ~~52.~~ Evidently both aware and concerned that the absence of statistical significance in the results of the Trammell Study did not permit the study to establish that Tru Niagen increased NAD at either 300 mg or 1,000 mg, ChromaDex sought to obscure that result. Rather than report separately the results of the study at 300 mg and 1,000 mg (which would have both shown no statistically significant increase in NAD), ChromaDex instead caused the study authors to adopt the misleading approach of aggregating the 300 mg and 1,000 mg results with those of trial participants who received 100 mg and to report an aggregate result to create a statistically significant result. This obfuscation, however, cannot alter the fact that the data showed definitively that, at either 300 mg or even at more than three times that amount, 1,000 mg, Tru Niagen simply does not work to raise NAD levels.

54. ~~53.~~ The Trammell Study further sought to obscure the lack of a statistically significant increase in NAD among its participants at 300 mg (or 1,000 mg) by claiming that the study showed a dose-dependent increase in what Brenner describes as the “NAD metabolome”. This term was plainly intended to be suggestive of an increase in NAD, which is precisely what the study did not prove. In reality, the “NAD metabolome” is nothing more than

a term to describe various biomarkers associated with Vitamin B3, and the increase in the “NAD metabolome” shown by the Trammell Study demonstrated nothing more than the unremarkable proposition that as study participants ingested more Vitamin B3, they eliminated more B3.

55. ~~54.~~ Faced with the results of the Trammell Study, ChromaDex took matters into its own hands by commissioning a second study, completed in March of 2017 but ~~remaining unpublished over two years later (the “KGGK, upon information and belief, rejected from publication until July 2019 (the “Conze Study”)~~, the design of which it manipulated in a transparent attempt to overcome the disappointing results of the Trammel Study and produce the desired result of a statistically significant increase in NAD among participants. The ~~KGGK Study’s eligibility criteria~~ Conze Study required ~~that~~ participants “to avoid foods that contain high amounts of tryptophan ~~and niacin and limit their ingestion of foods containing moderate amounts of tryptophan and niacin.”²⁴~~ forms of vitamin B3” for a full two weeks prior to taking Niagen. This could obligate participants to avoid foods that are commonly found in many diets, such as eggs, poultry, beef, pork, and fish, types of nuts, legumes, and grains, numerous cheeses, and fortified breads and cereals. The effect of this diet was to manipulate the baseline NAD levels of the participants, rendering any results from the study wholly unreliable.

56. ~~55.~~ ChromaDex’s false claims that Tru Niagen has been clinically proven to raise NAD are not the only false claims it has made about the efficacy of its product.

57. ~~56.~~ ChromaDex makes numerous claims about Tru Niagen that all depend on the false premise that Tru Niagen increases NAD. These include, for example, claims on its Tru Niagen website that Tru Niagen promotes cellular repair, maintains healthy mitochondria, and

⁴ See Study NCT02712593 at ClinicalTrials.gov, available at <https://clinicaltrials.gov/ct2/show/record/NCT02712593?term=nicotinamide+riboside&rank=32&view=record>.

energizes cells. All of these claims are rendered false by the falsity of the fundamental proposition on which they rest, that Tru Niagen increases NAD.

58. ~~57.~~ ChromaDex also currently advertises on its Tru Niagen website, found at https://try.truniagen.com/fitness/?utm_source=icon&utm_medium=TV&utm_campaign=sharpe https://try.truniagen.com/fitness/?utm_source=icon&utm_medium=TV&utm_campaign=sharpe, that Tru Niagen increases exercise performance, “whether you’re playing in the big game, finding your one-rep max, or it’s active recovery day.” In truth, however, clinical trial data from a study commissioned by ChromaDex demonstrated *no significant differences* between those study participants taking Tru Niagen and those taking a placebo in nine different measures of motor performance or in various measures of performance during a graded exercise test on a treadmill, including oxygen uptake, heart rate, time to exhaustion, perceived exhaustion, and respiratory exchange ratio. In other words, Tru Niagen produces no measurable benefits in terms of physical activity or exercise.

59. ~~58.~~ Moreover, ChromaDex’s chart advertising that Tru Niagen raised NAD by 60%, in addition to being untrue, was further misleading because it failed to adequately alert consumers that the claimed results would come only at a daily ~~does~~dose four times higher than ChromaDex was then recommending.

60. ~~59.~~ Buried at the bottom of the chart, in a font much smaller and fainter than that comprising the chart and its title, was a bland footnote disclosing that the claimed results came at an intake of 1000 mg a day.

61. ~~60.~~ What ChromaDex failed to disclose in connection with this chart is that 1,000 mg of Niagen per day was four times the daily intake of 250 mg of Niagen it recommended to its customers (through consumption of two capsules of Tru Niagen containing

125 mg of Niagen each). Thus, when a customer clicked the website's "Buy Now" link and learned she can subscribe to purchase three bottles of Tru Niagen every three months for \$105, she did not know that to obtain the 60% increase in NAD ChromaDex advertised on that same website, she would have needed actually to quadruple that subscription, increasing her cost to \$420 every three months.

62. ~~61.~~ That ChromaDex's misrepresentation of the efficacy of its product was willful is evident from a review of its Tru Niagen page on Amazon.com, where in a footnote to a similar chart claiming its product increases NAD by 60%, it did actually disclose, albeit in vanishingly small print, that those results could be obtained only at four times the recommended daily intake.

63. ~~62.~~ Why ChromaDex seeks to mislead customers with inflated and unsubstantiated claims regarding the efficacy of Tru Niagen is obvious. Customers want products that work, and would not buy Tru Niagen if they knew that clinical trials actually demonstrated it to lack efficacy.

64. ~~63.~~ Elysium, when discussing the proven efficacy of the synergistic combination of NR and pterostilbene that make up its Basis, truthfully and without obfuscation discloses that at the recommended daily intake level, Basis has been shown in clinical trial data to increase NAD by 40%. In contrast, ChromaDex has made a shifting series of claims about Tru Niagen's efficacy at various dosages – none of which have turned out to be supported by reliable science in the form of data from clinical trials. The existence of published clinical trials on Tru Niagen is a centerpiece of ChromaDex's advertising. But in reality, published clinical trial data contradict the efficacy claims ChromaDex has made regarding Tru Niagen. As a result, Basis is the *only* NR product on the market clinically shown to raise NAD levels – a

huge competitive advantage that ChromaDex has wrongfully coopted through its series of false claims. This deceptive conduct also harms ChromaDex consumers, who ChromaDex has deceived into believing are purchasing a product with proven efficacy based on published human clinical trials, when in fact the opposite is true.

ChromaDex Falsely Touts Tru Niagen as “Safe” and “Trusted”

65. In addition to failing to demonstrate efficacy, the July 2019 Conze Study shows that Tru Niagen is clinically proven to injure consumers by dramatically decreasing their white blood cell count (WBC), posing serious risk to consumers, particularly the elderly customers who might be most attracted to ChromaDex’s supposed “anti-aging” product.

66. As is commonly known, white blood cells play a pivotal role in the body’s immune system, and assessing WBC is a part of the standard panel of tests carried out as part of an annual physical. In particular, neutrophils, a type of white blood cells, make up a large portion of human WBC and are thought to be the “first responders” against infectious organisms. Low WBC may be caused by a variety of conditions, including maladies like cancer or autoimmune diseases or infections, but commonly has the same effect: Someone with low WBC is more vulnerable to infection or other stresses.

67. ChromaDex advertises Tru Niagen as “the Trusted NAD Supplement” and seeks to convince consumers that its offering, not Elysium’s Basis, is the only safe and trustworthy nicotinamide riboside dietary supplement on the market. In addition to falsely advertising Tru Niagen as having received FDA “approval,” ChromaDex trumpets its dedication to safety and transparency and uses advertising that describes Tru Niagen “safe,” including by citing the Conze Study as support for that conclusion.

68. Shortly before publication of the trial, for example, ChromaDex updated its Tru Niagen advertising on Amazon.com to claim that “more than 4 published trials have confirmed Tru Niagen is safe and effective” and currently advertises its product as “SAFE TO USE” with “NO known negative side effects.”

69. As another example, on July 8, 2019, ChromaDex issued a press release announcing the clinical trial results and misleadingly describing Tru Niagen as “safe” multiple times:

- a. “The results of this large human trial directly support the efficacy and safety of our NAD-boosting consumer product Tru Niagen,” says ChromaDex CEO Rob Fried.
- b. “The study also joins previous chronic supplementation studies to support the safety of chronic Niagen supplementation.” (Exhibit 1.)

70. ChromaDex’s Chief Scientific Advisor, the architect of the Conze Study, even doubled down on the lie: “This is a timely publication in the history of Niagen as it clearly shows safe, dose-dependent and time-dependent increases in blood NAD in human populations,” said Charles Brenner, PhD, Roy J. Carver Chair & Head of Biochemistry at the University of Iowa & ChromaDex Chief Scientific Advisor. “With so much global interest in NAD-boosting supplementation strategies, our approach to human translation has been to put safety first.” (Exhibit 1.)

71. Similarly, in a blog post published on blog.truniagen.com, dated July 22, 2019, ChromaDex states that “Tru Niagen is a safe, effective supplement” and that the Conze Study “further validates the safety and efficacy of Tru Niagen,” among other false assurances of the product’s safety. (Exhibit 2.)

72. Indeed, that ChromaDex’s Niagen is “trustworthy” and the only “safe” product of its type on the market has been the centerpiece of a more recent campaign by ChromaDex

seeking to discredit Elysium and another group of competitors advertising yet another form of NAD precursor, “NMN.” In another blog post published on truniagen.com on January 15, 2020, ChromaDex’s Chief Scientist, Charles Brenner, claimed without basis that NMN buyers were being “hoodwinked” and that NMN contains “possibly a slew of other ingredients that could negatively impact the body.” Claiming to provide a “much-needed expert take” as the “developer of the foremost NR patents,” Brenner labeled NMN “potentially dangerous as a supplement,” in supposed contrast to ChromaDex’s TruNiagen: “With NR, when people buy from [ChromaDex], they can rest assured that they’re purchasing a supplement whose ingredients and core functions have been safely reviewed and approved by the leading regulatory authoritative bodies in the world.” (Exhibit 3.)

73. ChromaDex’s false claims of its product’s safety is paired with affirmative attacks on Elysium and Basis. These include advertising campaigns that, as described below, direct potential NR customers to buy only products advertised as containing ChromaDex’s Niagen (i.e., products other than Basis), as “any nicotinamide riboside product that does not say ‘NIAGEN®’ on its label does not contain nicotinamide riboside that has been successfully notified to the FDA.” Brenner’s January 15, 2020 blog post likewise directs, “As a rule, purchase NR-based products that are confirmed to contain only the material listed on the bottle, with NR featured as the sole active ingredient [i.e., not Elysium’s Basis, which contains pterostilbene].”

74. Upon information and belief, ChromaDex even goes so far as to buy advertising so that any potential customer who runs a Google search for “Elysium Health” or similar terms will be confronted by ChromaDex advertising hinting that Elysium’s Basis is not trustworthy or safe: “You take vitamins but do you know the truth behind them?”

75. Through these statements, ChromaDex seeks to convince consumers that no harm will come to them as a result of their ingestion of ChromaDex's product and that Tru Niagen is in fact "the Trusted NAD Supplement" and more trustworthy than Elysium's Basis. This is false and misleading.

76. In reality, Tru Niagen is far from safe and trustworthy, as established by ChromaDex's own clinical trial, which showed that Tru Niagen is unsafe and dangerous to consumers. The trial was completed in 2017, but ChromaDex did not publish the Conze Study, in which the trial results were made public, until July 2019. Upon information and belief, the delay was caused by repeated rejections from reputable journals. The study nevertheless unequivocally revealed the hazards of Tru Niagen and specifically that ingestion of Tru Niagen was associated with the significant depletion of WBC. ChromaDex, of course, failed to disclose this critical fact to consumers in advertising that Tru Niagen is "safe."

77. In particular, the Conze Study notes: "Some differences were observed in the hematology parameters at day 56 (Table 3, Supplemental Figure). Specifically, decreases occurred in the white blood cell count and monocyte count in the placebo-treated group, white blood cell, neutrophil, and lymphocyte counts in the 100 mg-treated group, white blood cell, neutrophil, lymphocyte, monocyte, and basophil counts in the 300 mg-treated group, and the white blood cell, neutrophil, and lymphocyte counts in the 1000 mg-treated group. In contrast, increases in mean corpuscular volume, mean corpuscular hemoglobin, and red cell distribution width occurred only in the 1000 mg-treated group. Statistically significant differences also occurred in the white blood cell count in the 300 mg group compared to the placebo-, 100 mg-, and 1000 mg-treated groups and the red cell distribution width in 1000 mg-treated group compared to placebo-, 100 mg-, and 300 mg-treated groups."

78. This dry recitation conceals a major health issue: The clinical trial demonstrated that at two months, a 300mg daily dose of Tru Niagen (ChromaDex's recommended daily dose) reduces total WBC by 18% and neutrophils by 22% against baseline measurements.

79. ChromaDex attempted to conceal the issue by, among other attempts at deception, burying the WBC discussion and omitting specific mention of the dramatic percentage decrease of WBC in particular. The appendix, for example, merely states that "supplementation does not adversely affect selected hematological parameters" and provides a list that includes neutrophil counts. The reported raw data, however, contained in both the paper itself and the appendix, make clear the severity of the WBC decreases and the corresponding dangers of Tru Niagen.

80. By any objective measure, contrary to ChromaDex's promotion of Tru Niagen as "safe," the decreases in WBC reflected in the Conze Study represent a danger to the health of Tru Niagen consumers and ChromaDex's concealment of those dangers runs afoul of its claim to being "trustworthy" and offering "the Trusted NAD Supplement." Importantly, this was only an eight week trial. Continued use past eight weeks may compound the problems over time. ChromaDex has not acknowledged this as an issue. Upon information and belief, ChromaDex has not done any follow up research on the topic.

81. ChromaDex is aware that if it were publicly known that Tru Niagen endangers consumers in this manner, not a single consumer would opt for Tru Niagen over other, safer NAD precursor products on the market, including Elysium's own Basis.

82. ChromaDex, accordingly, has again turned to lies and deception. Just as it had manipulated the presentation of the results in the Trammell Study to conceal Tru Niagen's lack of efficacy on NAD levels, ChromaDex likewise manipulated presentation of the results in the

Conze Study—led by ChromaDex’s Chief Scientific Advisor—to disguise the dangerous side effects that the clinical trial revealed.

83. ChromaDex has made false and misleading statements that Tru Niagen is “safe” and “trusted” and trustworthy in the face of these damning clinical trial results. These material misstatements and omissions have, on information and belief, diverted consumers who would otherwise purchase Elysium’s product, which does not have the harmful effects that Tru Niagen is clinically proven to impose. Indeed, the clinical trials conducted on Basis have definitively established that ingestion of Basis *does not* result in the harmful effects on WBC that ChromaDex’s most recent clinical trial has proven for Tru Niagen.

84. That a dietary supplement product is safe and not injurious to health and that it and the company producing it are trustworthy is material to consumers and impacts their purchasing decisions—indeed, dietary supplement consumers are more likely than average consumers to care about their health and to be wary of untrustworthy products in an industry from which transparency and commitment to quality and safety have too frequently been lacking.

85. If ChromaDex did not falsely label itself as trustworthy and Tru Niagen as “safe” and “the Trusted NAD Supplement,” that is, if it did not conceal the hazards of Tru Niagen and the deleterious effect that ingesting Tru Niagen has on WBC, it is doubtful that any consumer would opt for Tru Niagen over Basis.

86. As such, ChromaDex’s false advertising has harmed Elysium by co-opting customers that would otherwise purchase Basis.

ChromaDex Falsely Claims It Discovered NR in 2004 Even Though NR Was Discovered Over 50 Years Ago

87. ~~64.~~ In an apparent effort to bolster the legitimacy of its product over those of its competitors (especially Elysium), and in an effort to deceive consumers and the public at large, ChromaDex touts a misleading story on the website through which it markets its Tru Niagen product: The false assertion that ChromaDex’s lead scientist discovered NR in 2004, even though NR was discovered more than 50 years ago. These statements are intentionally false, misleading, and are designed to, among other things, deceive consumers and influence them to purchase NR from ChromaDex, as well as divert sales from its competitors, such as Elysium, to ChromaDex.

88. ~~65.~~ On the “FAQ” page of its Tru Niagen website, ChromaDex advertised that “[i]n 2004, Charles Brenner PhD discovered a unique and overlooked form of vitamin B3 (nicotinamide riboside) that is a natural precursor to NAD.” (Exhibit 14.)

89. ~~66.~~ Prominently displayed on another portion of the Tru Niagen website, entitled “Our Product,” ChromaDex doubles down on its NR origin story, responding to the question it posed to itself “How is Tru Niagen different from other vitamin B3?” by saying: “Tru Niagen is a specialized form of vitamin B3 *discovered by our Chief Scientific Advisor Charles Brenner, PhD* and developed specifically to increase NAD more effectively than any other B3 before it.” (Exhibit 25 [emphasis added].)

90. ~~67.~~ Brenner did not discover NR.

91. ~~68.~~ Brenner knows that he did not discover NR.

92. ~~69.~~ ChromaDex knows that Brenner did not discover NR.

93. ~~70.~~ ChromaDex’s statements that Brenner discovered NR are not true.

94. ~~71.~~ ChromaDex’s misrepresentation that Brenner discovered NR is a willful attempt to deceive consumers, as is evident from the Tru Niagen website itself. Buried on the “FAQ” page is a slip-up by ChromaDex where it varies from its fictional story about the origins of NR and accidentally admits the truth—that NR was actually discovered in the 1940s.

95. ~~72.~~ ChromaDex’s false claims with respect to the discovery of NR are material to customers, as demonstrated by the fact that it has made these claims the centerpiece of its advertising strategy. Claiming the discovery of NR represents a strategy by ChromaDex to falsely convince customers that it is responsible for all knowledge concerning NR, and thus lead them to believe that ChromaDex is the most scientifically sound source of NR. This strategy harms consumers, and also harms Elysium, which itself is responsible for significant advancements in the science surrounding NR.

96. ~~73.~~ Not only are these misrepresentations deceptive on their face, they are meant to confuse and influence consumers to purchase ChromaDex’s product in New York and elsewhere in the United States. ChromaDex’s false and misleading claims are designed to have consumers equate NR with ChromaDex and to divert sales away from its competitors, such as Elysium.

ChromaDex Falsely Claims That It is the Only Seller of NR

97. ~~74.~~ ChromaDex’s Tru Niagen website also falsely represents to consumers and the public at large that ChromaDex is the only seller of NR, which according to the website, can only be found under ChromaDex’s trade name, “Niagen.”

98. ~~75.~~ On the Tru Niagen “Unauthorized NR” page, ChromaDex advertises that NR is an ingredient “only sold as ‘NIAGEN®’” and directs consumers to “look at your label to ensure ‘NIAGEN®’ appears under the ‘Supplement Facts.’” (Exhibit 36.)

99. ~~76.~~ The Tru Niagen “Unauthorized NR” page even goes so far as to falsely imply that the NR in Elysium’s Basis is “counterfeit.”

100. ~~77.~~ These statements by ChromaDex are false on their face, meant to mislead customers and the public at large into believing ChromaDex is the only seller of NR, and part of ChromaDex’s organized campaign to influence consumers to purchase NR from ChromaDex, rather than its competitors.

101. ~~78.~~ ChromaDex is well aware that Elysium, its competitor, sells NR as an ingredient in Basis.

102. ~~79.~~ In fact, ChromaDex has claimed in the past to have performed compositional testing on Basis that showed Basis contains NR— testing that actually showed Elysium’s NR to be more pure than ChromaDex’s. ChromaDex knows full well that Basis contains actual NR, not “counterfeit” NR, as its advertising suggests.

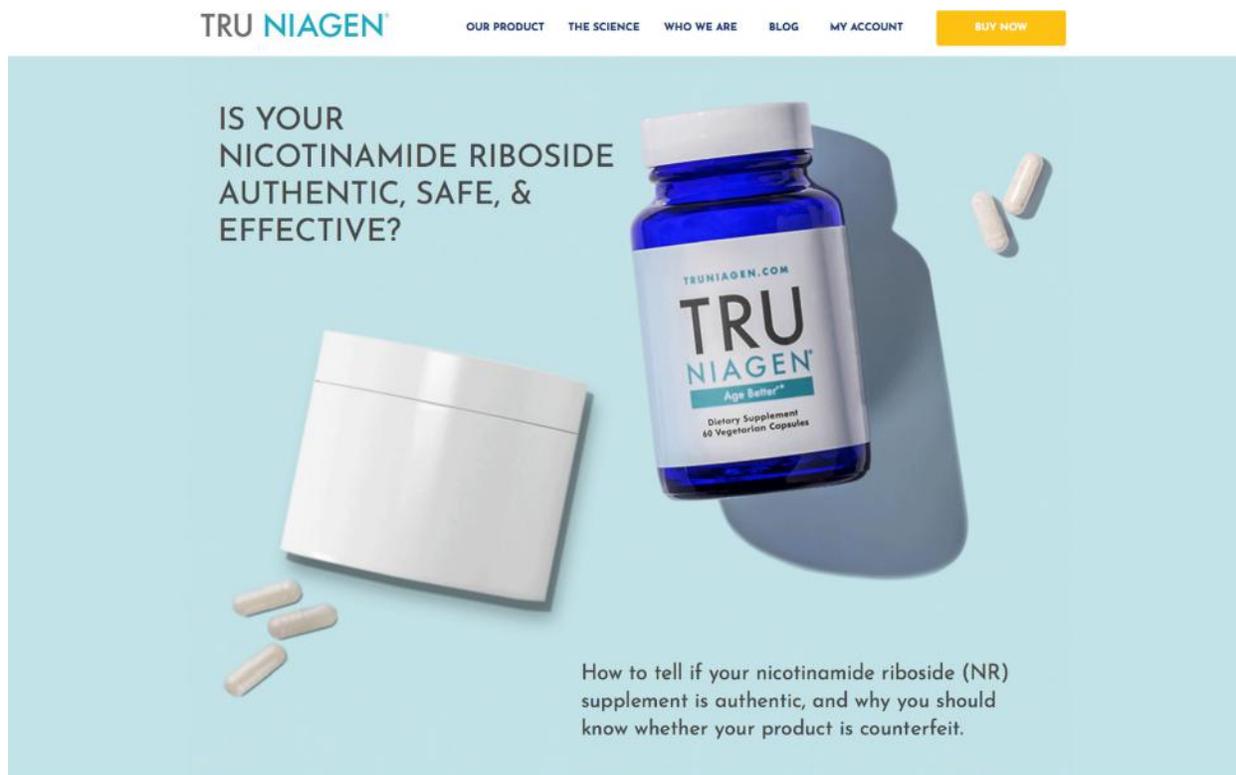
103. ~~80.~~ ChromaDex’s Tru Niagen website also seeks to discredit Elysium’s product Basis by using images that resemble the packaging of Basis to imply that Basis is not authentic, not safe and not effective.

104. ~~81.~~ The Tru Niagen website showed a full color image of a bottle of Tru Niagen next to a container (which resembles the uniquely shaped container for Basis) under the heading “Best Nicotinamide Riboside - Where to Buy NIAGEN®” and with the text “IS YOUR NICOTINAMIDE RIBOSIDE AUTHENTIC, SAFE & EFFECTIVE?”

- Compare the image below of Basis:



- To this image found on the Tru Niagen website:



105. ~~82.~~ ChromaDex’s misleading statements are a direct attack on any competitor to Tru Niagen, and specifically on Elysium’s product, Basis.

106. ~~83.~~ These false statements are highly material to potential consumers, as they are intended to persuade consumers that any NR product they purchase from any seller not using the trade name “Niagen” does not actually contain NR. These false statements aimed to, and do in fact, harm and divert sales from Elysium.

ChromaDex Falsely Advertised that Tru Niagen Had Been Rigorously Reviewed for Safety And Efficacy By FDA, When in Fact, FDA Did Neither

107. ~~84.~~ One of the driving claims behind ChromaDex’s advertising campaign for Tru Niagen was its false assertion that Niagen has been rigorously reviewed by FDA for both safety and efficacy. In reality, FDA has conducted no analysis of Tru Niagen at all.

108. ~~85.~~ ChromaDex misrepresented that FDA has, following rigorous review, determined its Tru Niagen product is safe. ChromaDex claims on its Tru Niagen website that it

has “3 FDA Safety Reviews,” which it claims to be two reviews under FDA’s new dietary ingredient (“NDI”) notification program and one notification to FDA of its product as GRAS.

109. ~~86.~~ Both ChromaDex’s own website and its Tru Niagen website mislead consumers to believe that FDA has made an affirmative determination regarding the safety of its product.

110. ~~87.~~ However, ChromaDex has merely made submissions to FDA in which it asserts its NR is safe, and FDA has accepted those submissions without conducting its own independent review.

111. ~~88.~~ The manner in which ChromaDex presented these submissions created a false and misleading narrative that caused consumers to believe that ChromaDex’s product had been safety-tested by FDA, when it had not. Indeed, ChromaDex is well aware that Tru Niagen has not been analyzed or tested by FDA in any manner.

112. ~~89.~~ At ChromaDex.com, customers can view a “Niagen” webpage, where they will be greeted by the title “NIAGEN® - The world’s first and only FDA-safety reviewed form of nicotinamide riboside (NR).” (Exhibit 47.)

113. ~~90.~~ Under the “Unauthorized NR” section of ChromaDex’s Tru Niagen website, the company asserted that “NIAGEN® is the only nicotinamide riboside that has been rigorously tested for safety and efficacy with the US FDA GRAS (Generally Recognized as Safe) and two ‘New Dietary Ingredient’ (NDI) notifications.” (Exhibit 36.) ChromaDex also claimed on the same page that “[a]ny nicotinamide riboside product that does not say ‘NIAGEN®’ on its label has not been rigorously reviewed by the US FDA.” (Exhibit 36.) It advertises on its “Our Product” page that Niagen has been through “3 FDA Safety Reviews.” (Exhibit 25.)

114. ~~91.~~ ChromaDex’s characterizations of the GRAS and NDI submissions as “safety reviews” by FDA are intentionally misleading and meant to influence consumers to purchase its product under the false belief that Tru Niagen has been rigorously reviewed by FDA.

115. ~~92.~~ These false statements are highly material to consumers. As ChromaDex well knows and intends, consumers are far more likely to buy a nutritional supplement if they believe FDA, a government agency charged with protecting the public, has conducted an independent review and determined the supplement to be safe.

116. ~~93.~~ A simple read of FDA’s responses to ChromaDex’s GRAS and NDI submissions reveals the falsity of the statements made throughout ChromaDex’s advertising. For example, on or about August 24, 2015, ChromaDex submitted an NDI notification for an ingredient identified as Niagen (“NDI 882”). ChromaDex supplemented its NDI filing on October 13, 2015 and October 30, 2015.

117. ~~94.~~ On or about November 3, 2015, ChromaDex received confirmation from FDA that its NDI 882 was filed. (Exhibit ~~58.~~) In response to the NDI filing, FDA stated that it was required to acknowledge receipt of ChromaDex’s NDI filing, and explicitly reaffirmed that “acceptance of this notification for filing is a procedural matter, and thus, *does not constitute a finding by FDA that the new dietary ingredient or supplement that contains the new dietary ingredient is safe or is not adulterated under 21 U.S.C. 342.*” (*Id.* [emphasis added].)

118. ~~95.~~ On or about December 27, 2017, ChromaDex submitted a new NDI (“NDI 1062”) to FDA for Niagen. FDA responded to NDI 1062, once again stating that it was required to acknowledge receipt of ChromaDex’s NDI filing, and once again explicitly reaffirming that “acceptance of this notification for filing is a procedural matter, and thus, *does*

not constitute a finding by FDA that the new dietary ingredient or supplement that contains the new dietary ingredient is safe or is not adulterated under 21 U.S.C. § 342.” (Exhibit [69](#) [emphasis added].)

[119.](#) ~~96.~~ ChromaDex operates a regulatory consulting business, Spherix Consulting, Inc., that specifically advertises advising on NDI submissions as one of its services. ChromaDex is acutely aware that the submission to and acknowledgment of the NDI submissions by FDA does not, in any way, render Niagen, or the Tru Niagen product, independently reviewed and “rigorously tested for safety” by FDA—as falsely claimed on the ChromaDex and Tru Niagen websites.

[120.](#) ~~97.~~ ChromaDex takes a similar deceptive approach in its advertising that references its GRAS submission.

[121.](#) ~~98.~~ On or about March 8, 2016, ChromaDex, through Spherix Consulting, submitted a GRAS notice to FDA as to its Niagen-branded NR. The notice informed FDA that it was ChromaDex’s view that NR is GRAS.

[122.](#) ~~99.~~ On or about August 3, 2016, FDA responded to ChromaDex’s GRAS submission, stating that “the agency ha[d] no questions at [that] time regarding ChromaDex’s conclusion that NR is GRAS under the intended conditions of use.” (Exhibit [710](#).)

[123.](#) ~~100.~~ FDA also stated that “this response should not be construed to be a statement that foods that contain NR, if introduced or delivered for introduction into interstate commerce, would not violate section 301(II) [of the Federal Food, Drug, and Cosmetic Act].” (Exhibit [710](#).) The response also provided that “[t]he agency has not, however, made its own determination regarding the GRAS status of the subject use of NR.” (*Id.* [emphasis added].)

124. ~~101.~~ On October 5, 2017, ChromaDex submitted an addendum to its GRAS notice, to which FDA has not responded publicly.

125. ~~102.~~ ChromaDex's regulatory consulting business specifically advertises advising on GRAS notices. As with the NDIs, ChromaDex is acutely aware that submission to FDA of its GRAS notice, and FDA's response to the submission with a statement that it has no questions, did not render Niagen or its Tru Niagen product independently reviewed or "rigorously tested for safety" by FDA as falsely claimed on the ChromaDex and Tru Niagen websites.

126. ~~103.~~ To the extent FDA's responses to the NDI or GRAS submissions constituted "review"—and certainly none was a rigorous review—ChromaDex's advertising that these FDA responses establish the safety of its product is materially misleading because FDA's responses were irredeemably tainted by ChromaDex's dishonesty in its submissions.

127. ~~104.~~ Had FDA conducted any sort of "rigorous review" of the original NDI submission and original GRAS notice—as ChromaDex misleadingly touts on its website—FDA would have discovered that ChromaDex falsely represented in each of those submissions that its product did not contain detectable levels of acetamide, an industrial solvent and plasticizer.

128. ~~105.~~ In the fall of 2017, Elysium undertook to test a selection of Niagen that ChromaDex had supplied to it after Elysium learned that acetamide was a byproduct of the NR manufacturing process. Elysium has undertaken significant efforts to remove acetamide from the NR incorporated in Basis once Elysium stopped purchasing NR from ChromaDex and developed a new source of supply.

129. ~~106.~~ To confirm the presence of acetamide in Niagen, Elysium also undertook to test a selection of Niagen-containing products on the market against the baseline of the “safe harbor limit” established by California’s Proposition 65, which requires warning labels on products containing substances considered to be generally hazardous to human health.

130. ~~107.~~ Nine of the eleven Niagen-containing products, including ChromaDex’s own direct-to-consumer product, Tru Niagen, contained levels of acetamide in excess of the “safe harbor limit.”

131. ~~108.~~ Had FDA conducted its own independent, rigorous review of ChromaDex’s product, as ChromaDex falsely implies FDA did in its advertising, it would have undoubtedly discovered the same detectable levels of acetamide in ChromaDex’s Niagen and Tru Niagen.

132. ~~109.~~ ChromaDex’s original NDI and GRAS submissions were further misleading in another material respect. Both purported to establish the safety of ChromaDex’s NR at intake levels up to 180 mg per day. ChromaDex, however, sold its Niagen-containing Tru Niagen at a recommended intake of 250 mg per day, the safety of which was not addressed, much less supported, in its original NDI and GRAS submissions. To the extent FDA conducted “reviews” of these submissions, neither spoke to the safety of ChromaDex’s Niagen-containing Tru Niagen, and ChromaDex’s touting those purported reviews on the website it uses to sell Tru Niagen is therefore grossly misleading.

133. ~~110.~~ Neither ChromaDex’s NDI submission nor its GRAS submissions even purported to establish that Niagen or Tru Niagen are effective in raising levels of NAD.

134. ~~111.~~ The NDI and GRAS processes are, in fact, not concerned with efficacy. NDI and GRAS submissions only make claims of safety, not efficacy.

135. ~~112.~~ Yet, ChromaDex misleadingly created the impression on the “Unauthorized NR” page of its Tru Niagen website that FDA, in response to its NDI and GRAS submissions, “rigorously tested” Niagen for both “safety and efficacy.”

136. ~~113.~~ Indeed, ChromaDex’s misleading claim that it is the only seller of NR combined with its misrepresentation that FDA has, following rigorous review, determined its NR-containing product Tru Niagen is safe, only further deceives consumers into believing that all other NR-containing products are inferior and only Tru Niagen has received FDA review.

137. ~~114.~~ ChromaDex’s pervasive campaign of false advertisements claiming that FDA had rigorously reviewed and deemed Tru Niagen safe and effective deceived and misled consumers and the public at large, disingenuously influenced customers to purchase from ChromaDex, and diverted consumers from purchasing products with NR from anyone other than ChromaDex, such as Elysium.

ChromaDex’s Deceptive Marketing Practices Deceive Consumers into Believing that Tru Niagen Cures Diseases

138. ~~115.~~ ChromaDex uses its deceptive marketing practices to prey on those with life-altering and life-threatening diseases by using an affiliate’s website to peddle the purported preventative and curative effects of its product to the public. ChromaDex misleadingly creates the impression with consumers that its Niagen-containing Tru Niagen product prevents and cures diseases.

139. ~~116.~~ ChromaDex is well aware that it is not allowed to say directly that NR treats any disease, because it lacks the kind of extensive clinical data FDA regulations require and FDA approval to support such statements. Indeed, the Tru Niagen website has a disclaimer

in tiny text at the bottom of practically every page that states “These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.” Thus, ChromaDex is knowingly deceiving customers and misleading the public through statements made on its affiliate’s blog.

140. ~~117.~~ Seeking to accomplish indirectly what it is not brazen enough to do directly, ChromaDex misleads the public and consumers by placing its advertisements and direct links to purchase Tru Niagen on blog posts created and maintained by one of its shareholders, who purports to be a non-practicing lawyer, on a website he maintains, right-of-assembly.org. This blogger disclosed on his blog that he is “a ChromaDex associate, and may earn a small commission on purchases from ChromaDex if you were referred directly from this site and completed a purchase.” This arrangement makes him a ChromaDex affiliate, and makes ChromaDex as responsible for the content of his statements about NR, Niagen, and Tru Niagen as if it had made the statements directly.

141. ~~118.~~ ChromaDex is well aware of this blogger and the contents of his website. He has written about discussions he has had with ChromaDex management, including during a visit to ChromaDex headquarters.

142. ~~119.~~ Through an investment advisor barred by FINRA for acts including improper promotion of ChromaDex stock, ChromaDex has caused a number of the blog posts to be widely distributed to individuals who had signed up to receive investor alerts from ChromaDex, including at least one New York resident.

143. ~~120.~~ At least one of those blog posts had been forwarded to the investment advisor by ChromaDex’s then-CEO.

144. ~~121.~~ Through these acts Chromadex has republished and endorsed the views expressed in this blog.

145. ~~122.~~ Because it was aware that this blogger, who as a shareholder has an obvious and direct financial interest in helping ChromaDex, wrote posts that contained fawning coverage of ChromaDex, were harshly critical of Elysium, and giddily praised Tru Niagen, ChromaDex decided that the blog was an ideal vehicle through which it could target credulous consumers. Thus, it elected to place advertising for Tru Niagen on virtually every blog post. By doing so, it implicitly vouched for their content.

146. ~~123.~~ The ChromaDex affiliate made repeated claims about the efficacy of Tru Niagen in preventing and/or curing diseases on upwards of 20 blog posts – posts that were flooded with advertisements for Tru Niagen, and with direct links to purchase the product. In these posts, the affiliate stated:

ChromaDex isn't allowed to say that NR treats any disease, because the FDA has not approved that. But the FDA does not regulate me, so I am free to tell you that the scientific evidence is growing that NR supplements replenish cellular NAD, which can protect against MANY ailments, including Alzheimers, Heart Disease, Parkinson's Disease, Breast Cancer, alcohol induced liver poisoning, chemotherapy induced peripheral neuropathy, organ injury from sepsis and in my own experience, Restless Legs Syndrome (RLS). You can find out more here: AboutNAD.com.

147. ~~124.~~ AboutNAD.com is a website maintained by ChromaDex, although it is not readily evident from the website and therefore gives the appearance that it is an unbiased source.

148. ~~125.~~ ChromaDex is responsible for these statements by its affiliate. Moreover, it impliedly endorses them by placing advertising on the blog and/or disseminating posts. ChromaDex is preying on consumers suffering from or living in fear of the listed diseases and conditions, giving them false hope that Tru Niagen will cure or prevent their suffering. These

representations are false, misleading to consumers, and meant to influence consumers to purchase NR from ChromaDex, and drive sales away from its competitors, including Elysium.

149. ~~126.~~ And there can be no doubt that these advertisements touting NR as a cure or preventative for disease are hitting their mark. Indeed, customers of Tru Niagen have posted product reviews on Amazon’s Tru Niagen page, stating that they made their purchases for reasons that strongly echo the blog’s disease claims. For example:

- A customer review dated September 18, 2018, stated, “While there is research linking NR supplementation and cardiovascular health, the only cognitive benefits I could see are related to Alzheimer’s and Parkinson[’]s.”
- A customer review dated September 10, 2018, stated “I bought it to help stave off Alzheimer’s.”
- A customer review dated February 18, 2018, stated, “the research also says that replenishing NAD appears to protect against Alzheimer[’]s, breast cancer, heart disease, and more.”

150. ~~127.~~ In addition to the economic harm caused to Elysium by ChromaDex’s false disease claims in the form of lost sales, ChromaDex’s false advertising also damages Elysium’s reputation and the goodwill it has built up over years of effort and substantial investment. The affiliate’s claims regarding treatment of disease refer to “NR supplements,” not solely to ChromaDex’s Niagen or Tru Niagen. Accordingly, customers suffering from or fearing any of the diseases the affiliate claims NR can prevent or treat, could be misled by this affiliate into purchasing Elysium’s Basis—which is, after all, a supplement containing NR—in the expectation that it will cure or protect them. Elysium, the seller of the NR supplement they take, will then be the likely subject of their ire should they conclude they have been misled,

notwithstanding the fact that it will have been ChromaDex, through its affiliate—not Elysium—that gave them that false hope.

ChromaDex Misleads Consumers That It Is Spending Millions on NR Research While Touting “ChromaDex is Not Paying” to Its Investors

151. ~~128.~~ In a further attempt to manufacture in consumers’ minds a veneer of scientific and institutional legitimacy for Tru Niagen, ChromaDex proudly advertises that it “pioneered NAD research by investing millions of dollars in safety and human clinical trials on its patent-protected NR” and claims to have supplied NR to “over 160 leading institutions for research,” creating the misleading impression that it has funded or is funding more than 160 studies relating to NR. To its shareholders, however, ChromaDex tells a different story, admitting on a November 10, 2016 earnings call that “It’s also important to note that ChromaDex is not paying for these studies, and we believe that collectively, these collaborative studies should result in somewhere in the range of \$40 million to \$50 million in research dollars spent on” NR, all of which ChromaDex hopes will redound to its financial benefit through increased sales of NR.

152. ~~129.~~ ChromaDex’s narrative that it is spending millions to drive NR research to consumers, while touting to shareholders it is not paying for tens of millions of dollars in research, evidences ChromaDex’s intent to deceive consumers. The manner in which ChromaDex presents this misrepresentation creates a false and misleading narrative that will cause consumers to believe that ChromaDex is more responsible for the funding and scientific research behind NR than it could ever truthfully claim to be.

153. ~~130.~~ Not only is this misrepresentation deceptive on its face, it is meant to confuse and influence consumers to purchase ChromaDex's product in New York and elsewhere in the United States.

154. ~~131.~~ This misrepresentation is material as it is intended to persuade consumers that any NR product they purchase from any seller other than ChromaDex is not backed by the (false) scientific legitimacy that ChromaDex seeks to imply. This misrepresentation is aimed to, and does in fact, harm and divert sales from Elysium.

ChromaDex's Unauthorized Copying of Elysium's Copyrighted and Proprietary Works

155. ~~132.~~ While ChromaDex sold false promises to its consumers and smeared Basis as "counterfeit," it simultaneously took Elysium's intellectual property and pawned it off as its own. In 2017, Elysium created a series of promotional videos describing the effects of consumption of NR on the human body and advertising Basis (the "Copyrighted Videos"), which include a video entitled "How Does Basis Work?" (the "Copyrighted Basis Video"). Elysium has exclusive rights under U.S. copyrights in the Copyrighted Videos, which have been widely distributed by Elysium through its website at elysiumhealth.com and posting on distribution channels including youtube.com and vimeo.com. The Copyrighted Videos are of substantial commercial value to Elysium.

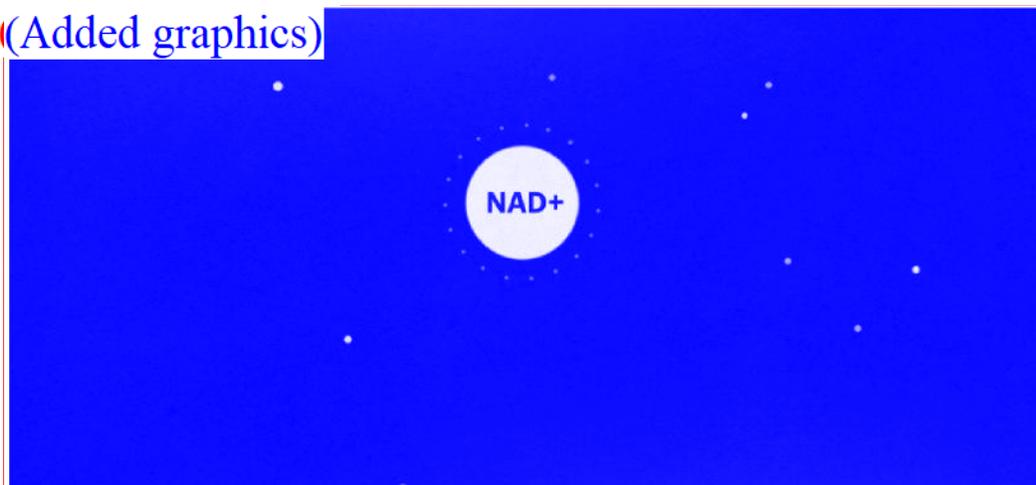
156. ~~133.~~ Elysium subsequently learned that ChromaDex had published a video entitled "Awaken Your Cells with Tru Niagen" (the "Infringing Video") that incorporates substantial portions of Elysium's works, including the Copyrighted Basis Video. These misappropriated elements include but are not limited to

- Substantial similarity, including verbatim statements, between the scripts for the Copyrighted Basis Video and the Infringing Video, such as the statement in the Copyrighted Basis Video that the coenzyme NAD⁺ is "one of the most important factors in health, essential for DNA protection, energy creation, circadian

rhythms, and hundreds of other vital functions,” compared to the statement in the Infringing Video that NAD+ is “one of the most important factors in health, playing a vital role in energy creation, DNA protection, maintaining healthy glucose levels, cognition, and hundreds of other vital functions;” and the immediately following statement in the Copyrighted Basis Video of “But as we age, NAD levels decline, and those functions break down,” compared to the immediately following statement in the Infringing Video of “But as we age, NAD levels decline, and cells are challenged to optimally perform their normal functions.”

- The identical graphical depiction of NAD+ in the video. Compare this image from the Copyrighted Basis Video:

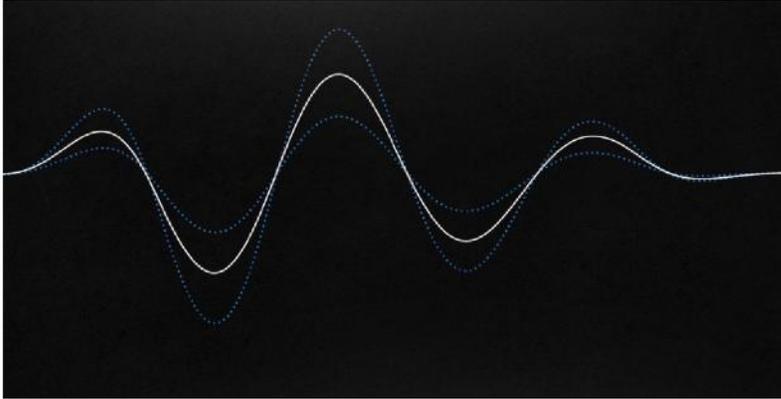
(Added graphics)



To this image from the Infringing Video:



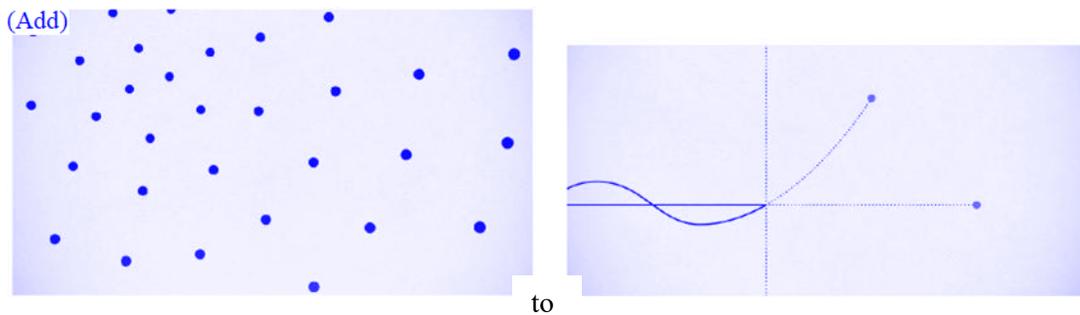
- Identical transitions between scenes, such as the transition from the NAD+ shot above to a linear depiction of heart rate. Compare this image from the Copyrighted Basis Video:



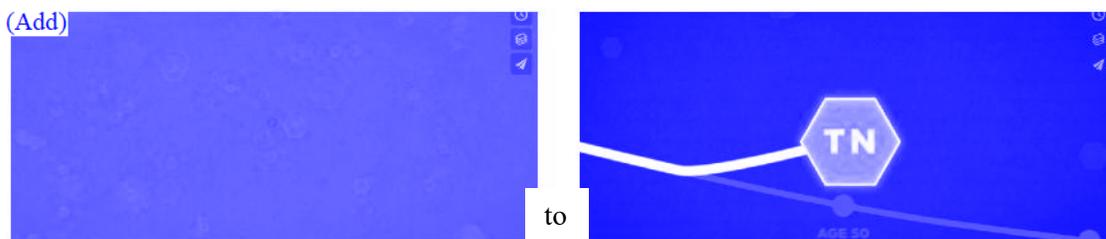
To this image from the Infringing Video:



- Similarly, ChromaDex in the Infringing Video has wholly copied the dissolve that accompanies the descriptions of NAD⁺'s function and decline and transition to a graphical representation of NAD⁺ levels as affected by each party's nicotinamide riboside product. Compare the transition between these two images from the Copyrighted Basis Video:



To the transition between these two images from the Infringing Video:



157. ~~134.~~ ChromaDex's Infringing Video is substantially similar to the copyright-protected Copyrighted Basis Video, to which ChromaDex had access via YouTube, Vimeo, and Elysium's own website. Elysium has reserved all of its rights in its works under copyright and has not authorized ChromaDex to reproduce, publish, provide, distribute, transmit, display, or

otherwise make any use of such works. Therefore, ChromaDex's use of these works is a clear infringement of Elysium's copyrights in violation of Sections 106 and 501 of the federal Copyright Act.

158. ~~135.~~ The Registration number for the Copyrighted Basis Video is PA 2-055-434.

159. ~~136.~~ In addition to this unauthorized copying of Elysium's videos, ChromaDex has also improperly copied Elysium's original images in its advertising. In 2017, Elysium engaged an artist to create an original work depicting two fingers holding what appears to be a light bulb, the structure and interior of which creatively borrows from imagery commonly used in chemistry to depict chemical compounds. Elysium then used the image on its website in connection with marketing Basis – and ChromaDex followed suit. Compare the following image (which contains the above-described original work) published on Elysium's website from May of 2017:

ELYSIUM

Science ▾

Basis ▾

Knowledge ▾

Buy Now



Science 101

Your source for information about NAD+, sirtuins, aging, and other important topics in science.

with this ChromaDex advertisement for Tru Niagen from March 27, 2019 (which not only copies the image of two fingers holding what appears to be a light bulb but the detail in the background as well, as evident from the white dots within and on the outer edges of the light bulb):



FIRST COUNTERCLAIM FOR RELIEF
(FALSE ADVERTISING UNDER 15 U.S.C. § 1125(a))

160. ~~137.~~ Elysium incorporates and re-alleges each and every allegation in paragraphs 1 to ~~131~~159 above as if fully set forth herein.

161. ~~138.~~ ChromaDex misleadingly represented the efficacy of its product, when clinical data shows it does not work as ChromaDex advertises. ChromaDex markets itself to give the false impression that it discovered NR and is the only company that sells NR. ChromaDex claimed repeatedly on both its website and the Tru Niagen website that its Niagen and Tru Niagen products are the only NR-based products that have been rigorously reviewed for safety and efficacy by FDA – even though that is false. ChromaDex also claimed its NR is the only NR to have undergone extensive safety testing, when Elysium’s NR has been extensively tested for safety and is GRAS. ChromaDex markets its Tru Niagen product as

preventing or treating diseases through targeted marketing on an affiliate website, without any legitimate basis to do so. Further, ChromaDex also misleads its customers by giving the false impression it is more responsible for the funding and scientific research behind NR than it could truthfully claim to be.

162. ~~139.~~ ChromaDex's marketing, advertising and promotional statements and activities are false and misleading misrepresentations of fact, and confuse consumers in New York and across the country into believing that its Niagen and Tru Niagen products (a) can raise NAD levels when clinical data shows no statistically significant increases in NAD levels of trial participants taking Tru Niagen; (b) are trustworthy and safe even though they have been shown to cause an alarming decrease in WBC; (c) contain an ingredient (NR) that was discovered by ChromaDex's lead scientist, when it was not; (ed) contain NR from the only seller of the ingredient, which is patently false; (de) have been "rigorously tested" and "rigorously reviewed" by FDA for safety and efficacy, which they have not; (ef) have been clinically proven to raise NAD levels by 40 to 60%; and (fg) can treat or prevent serious and potentially life-threatening diseases. ChromaDex also misleads consumers to believe that Elysium's Basis contains "counterfeit" NR when, as ChromaDex well knows, it contains actual NR. ChromaDex knows this advertising is false because it knows that Elysium sells NR in its product Basis. ChromaDex also misleads consumers through images used on its webpage to imply that Basis is not authentic, not safe and not effective. Moreover, ChromaDex misleads its customers by claiming to spend millions on research into NR, obviously to try to create the impression that it is making substantial investment to be a leader in the field of NR research and to try to take credit for work being done into NR by researchers, but ChromaDex, in fact, has boasted to its shareholders that it does not pay for most of the research being done on NR.

163. ~~140.~~ ChromaDex’s false and misleading advertising harms not only consumers, but also its direct competitors, such as Elysium, by influencing consumers to purchase NR from ChromaDex; diverting customers away from Elysium; and injuring Elysium’s business reputation, goodwill it has built up over years of effort and substantial investment, and stature in the industry, as well as its customer opportunities.

164. ~~141.~~ ChromaDex is therefore engaging in false advertising in violation of 15 U.S.C. § 1125(a), which prohibits a party from “misrepresenting the nature, characteristics, [or] qualities” of a product in “commercial advertising or promotion.” ChromaDex misrepresents the nature, characteristic, and qualities of the Tru Niagen supplement in violation of the law, causing Elysium and consumers alike irreparable harm for which Elysium has no adequate remedy at law.

SECOND COUNTERCLAIM FOR RELIEF
(FEDERAL UNFAIR COMPETITION UNDER 15 U.S.C. § 1125(a))

165. ~~142.~~ Elysium incorporates and re-alleges each and every allegation in paragraphs 1 to ~~136~~164 above as if fully set forth herein.

166. ~~143.~~ ChromaDex misleadingly represented the efficacy, safety, and trustworthiness of its product, when clinical data shows it does not work as ChromaDex advertises and is potentially harmful. ChromaDex’s marketing and promotion of its Niagen and Tru Niagen products gives the false impression that it discovered NR and is the only company that sells NR. ChromaDex also claimed on its website and the Tru Niagen website that its Niagen and Tru Niagen products are the only NR-based products that have been rigorously reviewed for safety and efficacy by FDA – even though that is false. ChromaDex further claimed that its NR is the only NR to have undergone extensive safety testing, when Elysium’s NR has been extensively tested for safety and is GRAS. ChromaDex markets its Tru

Niagen product as treating diseases through targeted marketing on an affiliate website, without any legitimate basis to do so. ChromaDex also misleads consumers through images used on its webpage to imply that Basis is not authentic, not safe and not effective. ChromaDex misleads its consumers Tru Niagen has been clinically proven to raise NAD levels by 40 to 60%. And ChromaDex's misleading claims create the impression that it is making substantial investment to be a leader in the field of NR research and to take credit for work being done into NR by researchers, but ChromaDex, in fact, has boasted to its shareholders that it does not pay for most of the research being done on NR. Consumers across the country are likely to be confused by this false and misleading information.

167. ~~144.~~ ChromaDex's false and deceptive marketing, promotion, and sale of its Niagen and Tru Niagen products in interstate commerce, in competition with Elysium, harms consumers and Elysium. Consumers are likely to rely on this information in their purchasing decisions at commercial detriment to Elysium. In addition, it injures Elysium's business reputation, goodwill it has built up over years of effort and substantial investment, and stature in the industry, as well as its customer opportunities.

168. ~~145.~~ ChromaDex is therefore engaged in unfair competition in violation of 15 U.S.C. § 1125(a) and has caused Elysium irreparable harm for which Elysium has no adequate remedy at law.

THIRD COUNTERCLAIM FOR RELIEF
(DECEPTIVE PRACTICES UNDER NEW YORK GENERAL BUSINESS LAW § 349)

169. ~~146.~~ Elysium incorporates and re-alleges each and every allegation in paragraphs 1 to ~~140~~168 above as if fully set forth herein.

170. ~~147.~~ By the acts described herein, ChromaDex has engaged in deceptive acts and practices directed at consumers in the conduct of its business by disseminating misleading

information to induce the purchase of its product, injuring New York consumers' financial wellbeing, in violation of New York General Business Law § 349(h).

171. ~~148.~~ ChromaDex's acts alleged herein have caused monetary damages to Elysium in an amount to be proven at trial in excess of \$75,000.

172. ~~149.~~ ChromaDex's acts have caused, and will continue to cause, irreparable injury to Elysium and its business and reputation unless and until ChromaDex is permanently enjoined.

FOURTH COUNTERCLAIM FOR RELIEF
(COPYRIGHT INFRINGEMENT UNDER COPYRIGHT ACT §§ 106 & 501)

173. ~~150.~~ Elysium incorporates and re-alleges each and every allegation in paragraphs 1 to ~~144~~172 above as if fully set forth herein.

174. ~~151.~~ Elysium owns the copyright registrations for the Copyrighted Videos, including the Copyrighted Basis Video.

175. ~~152.~~ ChromaDex actually copied protected aspects of the Copyrighted Basis Video, including verbatim language lifted from the Copyrighted Basis Video, resulting in works that are substantially similar to the Copyrighted Basis Video, as well as copied Elysium's original images in its advertising.

176. ~~153.~~ ChromaDex's acts have caused monetary damages to Elysium in an amount to be proven at trial.

PRAYER FOR RELIEF

WHEREFORE Elysium prays that:

A. ChromaDex, its employees, representatives, and agents be enjoined from making false and/or misleading statements that ~~it~~Tru Niagen is trusted, safe and effective, that ChromaDex or its employees discovered NR, that it is the only seller of NR, that its NR products

have been rigorously reviewed by FDA for both safety and efficacy, that its NR products can raise NAD levels by up to 60% without disclosing that such an increase would require four times the recommended intake, that its NR products have been clinically shown to raise NAD levels by 40 to 60 percent, that Elysium's NR is not authentic or is "counterfeit," and that its NR products prevent or treat any diseases;

B. ChromaDex be ordered to publish for a period of not less than twelve months corrective advertising in all media cogently correcting all the misleading and false statements, including, but not limited to, ChromaDex's false statements that ~~#~~[Tru Niagen is trusted, safe and effective, that ChromaDex or its employees](#) discovered NR, that it is the only seller of NR, that its NR products have been rigorously reviewed by FDA for both safety and efficacy, that is product can raise NAD levels by 60%, that its NR products have been clinically shown to raise NAD levels by 40 to 60 percent, that Elysium's NR is "counterfeit," and that its NR products prevent or treat any disease;

C. [The Court find that ChromaDex violated Section 43\(a\) of the Lanham Act \(15 U.S.C. § 1125\(a\)\), Section 349 the New York General Business Law, and Section 106 of the Copyright Act.](#)

D. ~~C.~~ The Court grant any and all relief to which Elysium may be entitled pursuant to the Lanham Act, 15 U.S.C. §§ 1051, et seq., including but not limited to treble damages and attorneys' fees, in an amount to be proven at trial;

E. ~~D.~~ The Court grant any and all relief to which Elysium may be entitled pursuant to the Copyright Act, 17 U.S.C. §§ 503-505, including but not limited to an injunction during the pendency of this action and permanently from infringing Elysium's copyrights in the Copyrighted Videos in any manner, and from publishing, selling, marketing, distributing, or

otherwise disposing of any copies of the Copyrighted Videos; that ChromaDex be required to account for all gains, profits, and advantages derived by its infringement of Elysium's copyrights, and that ChromaDex be ordered to pay Elysium statutory damages, actual damages, and profits for each infringement;

F. ~~E.~~ The Court grant any and all relief to which Elysium may be entitled pursuant to state law and state common law, including enhanced damages and attorneys' fees;

G. The Court award pre-judgment and post-judgment interest, to the fullest extent allowable at law or in equity, on all damages;

H. ~~F.~~ The costs of this action be taxed against ChromaDex, including attorneys' fees; and

I. ~~G.~~ The Court grant Elysium such other and further relief as the Court may deem just and proper.

Dated: ~~July 1~~February 10, 2019~~2020~~

~~BAKER HOSTETLER LLP~~

FRANKFURT KURNIT KLEIN &
SELZ, P.C.

By: ____/s/ ~~Joseph N. Sacca~~ Craig B.
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| Summary report: | |
|---|------------|
| Litera® Change-Pro for Word 10.7.0.7 Document comparison done on 2/10/2020 11:24:52 PM | |
| Style name: Default Style | |
| Intelligent Table Comparison: Active | |
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| Modified DMS: iw://FKKS-DMS.IMANAGE.WORK/FKKSDOCS/2510506/3 | |
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| Table moves from | 0 |
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| Embedded Excel | 0 |
| Format changes | 0 |
| Total Changes: | 501 |