Exhibit B

UNITED STATES DISTRICT COURT FOR THE DISTRICT OF MASSACHUSETTS

ANDREW P. MALLON Plaintiff, v. JOHN MARSHALL, and DENNIS J. GOEBEL Defendants.	)	ECF CASE Case No. 4:14-cv-40027-TSH

FIRST AMENDED COMPLAINT

Plaintiff Dr. Andrew P. Mallon files this Amended Complaint against Defendants and alleges the following:

Nature of Action

1. This is a civil action seeking a declaratory judgment and injunctive relief regarding copyright ownership of a scholarly paper pursuant to the Copyright Act, 17 U.S.C. § 101 *et seq*.

Parties

2. Plaintiff Dr. Andrew P. Mallon ("Dr. Mallon") is a resident of 32 Riverside Drive in Lincoln, Rhode Island, 02865.

3. On information and belief, Defendant John Marshall ("Dr. Marshall") is a resident of 27 Walnut Road. Barrington, RI 02806.

4. On information and belief, Defendant Dennis J. Goebel is a resident of 2205 Silvermaple Ct., Wixom, MI 48393-1892, and works at Wayne State

University, Department of Anatomy and Cell Biology, 8374 Scott Hall, 540 E CanField Ave., Detroit MI. 48201-1928.

Jurisdiction and Venue

5. This Court has jurisdiction to hear this action pursuant to 28 U.S.C. § 1331 and 1338 because this case arises under the Copyright Act, 17 U.S.C. §§ 101 *et seq*.

6. This Court has authority to order declaratory relief under the Declaratory Judgment Act, 28 U.S.C. §§ 2201 and 2202 because there is a live controversy between Plaintiff and Defendant that includes a dispute over proper allocation of authorship and publication of the paper in question.

7. Venue in this district is proper pursuant to 28 U.S.C. § 1391 because the paper in question was published in Massachusetts and Plaintiff's business is located and harmed in Massachusetts.

Background

Dr. Mallon's Research and Writing on CN 2097 to Treat Learning and Memory Disorders

8. Dr. Mallon joined the laboratory of Dr. Marshall (the "Marshall Lab") in July 2008 as a post-doctorial research associate. Dr. Marshall is a professor of biology at Brown University and that is where his laboratory is located.

9. Dr. Mallon has extensive experience as a biotech entrepreneur, specializing in the identification and creation of early stage value in promising therapeutics in diseases that have high unmet clinical need.

10. Dr. Mallon is also an expert in the pharmacology of peptide and protein drugs and, in particular, their use in disorders involving membrane bound proteins, and an expert in learning and memory disorders.

11. His expertise and experience in these fields led Dr. Marshall to recruit him to work in his laboratory and to undertake research on CN 2097 and related compounds.

12. Dr. Mallon was primarily in charge of researching CN 2097. He planned, prepared, or reviewed all of the data related to the project and supervised and trained other scientists working on the project.

13. In October 2008, Dr. Mallon drafted and submitted a grant application to the Rhode Island Science and Technology Advisory Council. The Council awarded the research grant in February 2009.

14. As a result of the research that the grant helped fund, Dr. Mallon discovered that a certain chemical compound referred to as CN 2097 enhances long-term potentiation ("LTP") in the hippocampus of normal rats and Angelman Syndrome mice.

15. Long-term potentiation enhancement is important because LTP is widely considered the cellular basis of learning and memory, and its enhancement has potential utility in treating learning and memory disorders, including Angelman Syndrome ("AS"). AS is a neurodevelopment disorder characterized by seizures, severe cognitive impairment and a high rate of autism.

16. In 2009, Dr. Mallon disclosed to Dr. Marshall and Brown University, his invention, resulting in the filing of a patent called "Long term potentiation with cyclic-glur6 analogs." United States Patent Application Serial Number 13/389,047.

17. To further his research, in May 2009, Dr. Mallon wrote a grant application to the Angelman Syndrome Foundation, which secured 2 years of funding for Dr. Mallon to continue his research into the use of CN 2097 or similar chemicals to treat AS.

18. While Dr. Mallon was writing the research grant for the Angelman Syndrome Foundation, he led the effort to create a company to commercialize CN 2097 for the treatment of diseases, including learning and memory related diseases, including Angelman Syndrome. Drs. Mallon and Marshall were co-founders of the company, and Dr. Mallon handled the day-to-day operations of the company, grant writing, business strategy, presentations, license negotiations with Brown University, and was a Director, the President, CEO and Director of Research.

19. In his role as Director of Research, Dr. Mallon wrote several small business innovative research ("SBIR") grant applications to the NIH to commercialize CN 2097.

20. Drs. Mallon and Marshall believed their research continued to show that CN 2097 and related chemicals had the potential to treat important learning and memory related diseases and to protect related cells from damage. They believed that their research had advanced far enough to warrant drafting and publishing a paper describing their findings.

21. Dr. Mallon worked independently for ten months drafting the CN 2097 Paper. In drafting the paper, he used a large proportion of his writing and figures he created while working at Ardane Therapeutic, including grant applications filed by Ardane Therapeutics and business documents. Dr. Mallon drafted and retained a number

of versions of the CN 2097 paper and the grant applications and Ardane Therapeutics' business documents from which large parts of the writing was derived.

22. In October 2011, Drs. Mallon and Marshal submitted the paper describing their work to Neuron (the "Neuron Paper"), a leading academic journal (Exhibit A.). The Neuron Paper listed Dr. Mallon as the first author, representing his leading role in conceiving, researching and drafting the paper. They planned to publish the Neuron Paper without obtaining a transfer of copyright from Brown because they believed that they owned the copyright. They ultimately were not able to publish their paper on CN 2097 with Neuron.

23. In response to Dr. Marshall's request for advice, Dr. Mallon suggested they submit their paper to PLOS Biology, another academic journal, for publication. Dr. Mallon also delineated detailed revisions to the paper to improve the quality of the submission.

24. But before they could publish the revised paper, Drs. Mallon and Marshall had a falling out. In November 2011, Drs. Mallon and Marshall disagreed about how Ardane should be operated and about the required standards of legal and ethical conduct.

25. Dr. Marshall was removed from the company and his interest in the company was surrendered. Dr. Cong Cao, who was a cancer biology consultant at the company, was also removed from that role.

Submission of Dr. Mallon's Work to PLOS Biology Without Attribution

26. In December of 2009, Dr. Cong Cao joined the Marshall lab as a graduate student to complete his studies in cancer biology. Neuroscience and learning

and memory investigation were not Dr. Cao's field of study. Although Dr. Cao was listed as a co-author on the Neuron Paper, he did not draft any part of the Neuron Paper and his scientific contributions were similarly meager. Dr. Cao worked only to analyze samples as directed and supervised by Drs. Mallon and Marshall. On information and belief, Dr. Cao is no longer allowed to live and work in the United States and returned to China.

27. After Drs. Mallon and Marshall stopped working together, Dr. Marshall and several other scientists published Dr. Mallon's work related to CN 2097 and described in the Neuron Paper.

28. Using Dr. Mallon's research and the Neuron Paper, Drs. Marshall and the other listed authors submitted Dr. Mallon's Neuron Paper with minor alterations to PLOS Biology titled "Impairment of TrkB-PSD-95 Signaling in Angelman Syndrome" (the "PLOS Biology Paper") (Exhibit B). The paper was accepted and published in January 2013.

29. When compared to the Neuron Paper, it is evident that Dr. Marshall took Dr. Mallon's Neuron Paper and grant applications, changed them in a few places, and published it as his own work. On information and belief, most of the other listed authors were likely unaware that Dr. Marshall had largely copied Dr. Mallon's Neuron Paper when submitting the PLOS Biology Paper whilst removing Dr. Mallon as the first author. The PLOS Biology Paper describes Drs. Marshall and Goebel as the authors to contact if there are any questions or concerns regarding the paper.

30. Some of the more glaring examples showing that Drs. Marshall and the other authors published Dr. Mallon's work under their own name are included

below. These examples are comparisons between Dr. Mallon's Neuron Paper and the PLOS Biology Paper.

The PLOS Biology Paper Was Largely Copied From the Neuron Paper

31. The PLOS Biology paper on page 2 includes an almost verbatim inclusion from the Neuron Paper. It reads: "To examine the effects of CN2097 on LTP, field excitatory postsynaptic potentials (fEPSPs) were elicited from hippocampal slices of AS and WT littermate male mice, 2–4 mo of age, by stimulating Schaffer collaterals and recording from the stratum radiatum of the CA1 area." The Neuron Paper on page 3 reads: "To examine the effects of CN2097 on LTP, field excitatory postsynaptic potentials (fEPSPs) were elicited from hippocampal slices of AS and WT littermate male mice, 2-4 months of age, by stimulating Schaffer collaterals and recording from the stratum radiatum of the CA1 area."

32. The PLOS Biology paper on page 2 includes an almost verbatim inclusion from the Neuron Paper. It reads: "This LTP was shown to be NMDA receptor dependent, as it was blocked by APV, a competitive NMDA receptor antagonist… CN5135, a negative control compound where the 0 and −2 ring positions of CN2097 were substituted with alanine residues to disrupt PDZ binding (Figure S1A), did not significantly increase the LTP induction rate of a single HFS." The corresponding section in the Neuron Paper on page 3 reads: "This LTP was NMDA receptor dependent, as it could be blocked by APV, an NMDA receptor antagonist… In contrast, a negative control compound, CN5135, in which the 0 and -2 ring positions of CN2097 were substituted with alanine residues, disrupting PDZ binding, did not facilitate LTP."

33. The PLOS Biology paper on page 2 includes an almost verbatim inclusion from the Neuron Paper. It reads: "In AS hippocampal slices, deficits in LTP were reported to be due to an alteration in the induction threshold, and LTP could be rescued by increasing synaptic stimulation at 32°C [8]. Consistent with previous studies [6-8, 15], we were unable to induce LTP in AS mice, using either a single (n = 5) or two sets of HFS (n = 7)." The Neuron Paper on page 3 reads: "In AS mice, deficits in LTP were reported to be due to an alteration in the induction threshold, which could be rescued by increasing synaptic stimulation (Weeber et al., 2003) … In agreement with previous studies (Jiang et al., 1998; van Woerden et al., 2007; Yashiro et al., 2009), we were unable to induce LTP in AS mice, using up to three HFS, 10 seconds apart (LTP3)."

34. The PLOS Biology paper on page 2 includes an almost verbatim inclusion from the Neuron Paper. It reads: "To determine whether AS mice exhibit defects in BDNF signaling, we performed western blot analysis probed with phospho-specific antibodies … ." The Neuron Paper on page 3 reads: "To determine whether AS mice exhibit defects in BDNF signaling … western blot analysis probed with phospho-specific antibodies … ."

35. The PLOS Biology paper on page 3 includes an almost verbatim inclusion from the Neuron Paper. It reads: "As a measure of BDNF-induced PI3K activity, we examined the phosphorylation state of its downstream effector, the serine/threonine kinase Akt [49]." The Neuron Paper on page 4 reads: "As a measure of BDNF-induced PI3K activity, we examined the phosphorylation state of its downstream effector, the serine/threonine kinase Akt … ."

36. The PLOS Biology paper on page 11 includes an almost verbatim inclusion from the Neuron Paper. It reads: "Brains were rapidly removed and placed in 4°C dissecting solution (containing 60 mM NaCl, 3 mM KCl, 1.25 mM $NaH2PO_4$, 28 mM $NaHCO_3$, 110 mM sucrose, 0.6 mM ascorbic acid, 5 mM Dextrose, 7 mM $MgCl_2$, and 0.5 mM $CaCl_2.H_2O$, [pH 7.25–7.35])." The Neuron Paper on page 8 reads: "Brains were rapidly removed and placed in 4 °C dissecting solution (containing 60 mM NaCl, 3 mM KCl, 1.25 mM $NaH2PO_4$, 28 mM $NaHCO_3$, 110 mM sucrose, 0.6 mM ascorbic acid, 5 mM Dextrose, 7 mM $MgCl_2$ and 0.5 mM $CaCl_2.H_2O$, pH (7.25–7.35)."

37. The PLOS Biology paper on page 11 includes an almost verbatim inclusion from the Neuron Paper. It reads: "For Western blot analyses, several brain slices were transferred to room temperature 20-ml submersion chambers containing continually oxygenated ACSF. Test reagents were added directly to the chamber." The Neuron Paper on page 8 reads: "For western blot analyses, several brain slices were transferred to room temperature 20 ml submersion chambers containing continually oxygenated ACSF. Test reagents were added directly to the chamber."

38. The PLOS Biology paper on page 2 includes an almost verbatim inclusion from the Neuron Paper describing the experimental conditions that Dr. Mallon used in his research. Dr. Mallon, alone, established the novel methods and the apparatus used and described in the paper. The results described in the paper are also largely recorded in Dr. Mallon's laboratory notebooks. It reads:

> "For electrophysiological recordings, slices were transferred to a 1-ml submersion-type recording chamber perfused with 30ºC, oxygenated ACSF at 2 ml/min-1. Borosilicate glass microelectrodes (resistance ,1 MV) were placed in CA1 stratum radiatum for extracellular recordings. Synaptic responses were elicited by stimulation

> of the Schaffer Collaterals with 0.3-ms square wave pulses with a concentric bipolar electrode. Stimulation intensity was adjusted to record stable (,5% drift) fEPSPs at 50% of maximum amplitudes (.2 mV minimum). fEPSPs were recorded (AxoClamp2B amplifier, Axon instruments), Bessel filtered at 1 Hz and 1 kHz (Dagan, EX1 Differential Amplifier), digitized at 10 kHz (NI BNC2010A), and stored for analysis (Igor pro, Neuromatic and nClamp, www.neuromatic.thinkrandom.com). HFS trains consisted of one, two, or three 1-s 100-Hz, 0.2-ms pulse duration, over 30 s. Effects were presented as average 6 SEM. Significance was determined using paired t tests."

The Neuron Paper on page 8 reads:

> "For electrophysiological recordings, slices were transferred to a 1ml submersion-type recording chamber perfused with 30ºC,oxygenated ACSF at 2mlmin-1. Borosilicate glass microelectrodes (resistance <1MΩ) were placed in CA1 stratum radiatum for extracellular recordings. Synaptic responses were elicited by stimulation of the Schaffer Collaterals with 0.3ms square wave pulses with a concentric bipolar electrode. Stimulation intensity was adjusted to record stable (<5% drift) field excitatory post-synaptic potentials (fEPSPs) at 50% of maximum amplitudes (>2mV minimum). fEPSPs were recorded (AxoClamp2B amplifier, Axon instruments), Bessel filtered at 1Hz and 1kHz (Dagan,EX1 Differential Amplifier), digitized at 10kHz (NI BNC2010A) and stored for analysis (Igor pro, Neuromatic and nClamp, www.neuromatic.thinkrandom.com). High frequency stimulation (HFS) trains consisted of 1, 2 or 3, one-second 100Hz, 0.2ms, pulses over 30 seconds."

39. Despite incorporating large sections of Dr. Mallon's first-author Neuron Paper word-for-word, and figure-for-figure, Dr. Mallon was not listed as an author.

The PLOS Biology Paper Was Published in Massachusetts and the Publication Harmed Dr. Mallon in Massachusetts

40. Prior to the publication of the PLOS Biology Paper, Dr. Mallon started a company to develop and commercialize chemical compounds to treat learning and memory diseases called Calista Therapeutics, Inc. Its place of business is 55 Northern Avenue, Boston and Dr. Mallon is the Chief Executive Officer.

41. Dr. Mallon's new company and Ardane were prohibited from developing the CN 2097 compound because Brown's Technology Transfer Office explicitly refused to license him the related intellectual property due to the political influence of Dr. Marshall, a faculty member. Contrary to earlier promises, they refused to license the CN 2097 intellectual property to Ardane and instead planned to license it to Dr. Marshall's new company, Angelus LLC ("Angelus").

42. Nevertheless, Dr. Mallon created new compounds to treat learning and memory related diseases in direct competition with Dr. Marshall. Dr. Mallon was in competition with Angelus, Dr. Marshall's new company, for investment and grant dollars, and potential partnerships. Central to that competition was and is the ability to convince potential investors, partners and granting agencies that the leaders of the respective companies have the skills and experience in learning related research to advance a drug through research and development.

43. Dr. Marshall published the PLOS Biology Paper throughout Massachusetts and it was read by a large number of potential investors and partners. Massachusetts is home to many biotechnology companies and investors, and they read trade publications to keep abreast of recent developments. The PLOS Biology Paper was

particularly important because it addressed a potential therapeutic drug that has extensive commercial possibilities.

44. On information and belief, Dr. Marshall decided not to list Dr. Mallon as an author on the PLOS Biology Paper in an attempt to gain a competitive advantage for himself and his company Angelus at the expense of Dr. Mallon.

45. On information and belief, Dr. Marshall also decided not to list Dr. Mallon as an author in retaliation for Dr. Mallon cooperation with authorities into the actions of Drs. Marshall and Cao.

46. On information and belief, Dr. Marshall also decided not to list Dr. Mallon as an author because Dr. Mallon stated that he believed that Dr. Cao and his work related to CN 2097 was no longer reliable and should not be published without independent substantiation of its integrity. Specifically, in his day-to-day supervision of Dr. Cao, Dr. Mallon had detected fabrication and falsification of data to support Dr. Cao's scientific conclusions. On information and belief, Dr. Marshall excluded Dr. Mallon from submission of the PLOS Biology Paper so he would not insist on proper standards of integrity of the data.

47. In February 2013, Dr. Mallon wrote PLOS Biology informing them of that authorship on the PLOS Biology Paper was incorrect and that he was a co-owner of the copyright. Dr. Mallon also alleged and substantiated several instances of serious scientific misconduct that undermined the reliability of the PLOS Biology paper. Dr. Mallon requested a retraction of the paper. PLOS Biology did not retract or correct the paper.

Academic Papers Are Not Works For Hire at Brown

48. Brown has a written intellectual property policy that governs the ownership of copyrights for works created by Brown students and employees.

49. The policy states that the default policy is that the copyright for individual works stays with the creator and does not transfer to Brown except in certain enumerated instances.

50. One of the instances where the copyright transfer to Brown is when a person is employed to create something on Brown's behalf, such as a computer programmer or technical writer.

51. It is understood that academic papers are not works for hire. Countless academic papers are written and published by students and employees at Brown every year without Brown transferring the copyright back to the writer. In fact, Drs. Mallon and Marshall intended to publish the Neuron Paper without permission from Brown. That is because it was not a work for hire.

Drs. Marshall and Goebel Destroyed Dr. Mallon's Copyright By Signing the Creative Commons Attribution License

52. When Drs. Marshall and Goebel published the PLOS Biology Paper they and all of the other listed authors signed a Creative Commons Attribution License. Upon information and belief, none of the listed authors of the PLOS Biology Paper sought or received a transfer of copyright ownership from Brown before signing the Creative Commons Attribution License.

53. According PLOS, "[t]his license was developed to facilitate open access – namely, free immediate access to, and unrestricted reuse of, original works of all types. Under this license, authors agree to make articles legally available for reuse,

without permission or fees, for virtually any purpose. Anyone may copy, distribute or reuse these articles, as long as the author and original source are properly cited."

54. Drs. Marshall and Goebel destroyed the value of Dr. Mallon's copyrighted work in return for the promise that anyone that uses Dr. Mallon's work cites them as the author and not Dr. Mallon.

First Claim for Relief
(Declaratory Judgment of Authorship)

55. The allegations in paragraphs 1 to 54 are incorporated into this claim for relief.

56. On information and belief, the copyright for the PLOS Biology Paper is not registered with the U.S. Library of Congress.

57. Dr. Mallon, conceived, planned, supervised and undertook the research described in the PLOS Biology paper. And he wrote the majority of the text and figures in the PLOS Biology Paper.

58. Drs. Marshall and Goebel published the PLOS Biology Paper using Dr. Mallon's written work, analysis and research results without identifying him as an author.

59. The absence of Dr. Mallon's name on the paper constitutes an improper publication of the paper because Dr. Mallon's work was published without his acknowledgement or permission.

60. Dr. Mallon is a co-author and co-owner of the copyright of the PLOS Biology paper.

Second Claim for Relief
(Accounting)

61. The allegations in paragraphs 1 to 60 are incorporated into this claim for relief.

62. Dr. Mallon is a co-author and co-owner of the Neuron Paper.

63. Dr. Mallon is a co-author and co-owner of the PLOS Biology Paper.

64. Drs. Marshall and Goebel signed a Creative Commons Attribution License making the PLOS Biology Paper legally available for reuse, without permission or fees, for virtually any purpose.

65. Drs. Marshall and Goebel destroyed the value of Dr. Mallon's copyright in the PLOS Biology Paper by signing the Creative Commons Attribution License for that Paper.

66. In the alternative, if Dr. Mallon is not a co-author of the PLOS Biology Paper, Drs. Marshall and Goebel destroyed the value of Dr. Mallon's copyrighted Neuron Paper by using it in the PLOS Biology Paper and then signing a Creative Commons Attribution License for the PLOS Biology Paper.

Prayer for Relief

Wherefore, Plaintiff respectfully requests the following relief:

A. Declaratory judgment that Dr. Mallon is a co-author and co-owner of the copyright of the PLOS Biology paper;

B. Full retraction of the PLOS Biology paper;

C. Damages for the destruction of Dr. Mallon's copyrighted work.

D. Punitive damages.

E. Costs and attorneys' fees

Respectfully submitted,

/s/ Brian D. O'Reilly

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