UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY,

Plaintiff,

vs. Case Number C-05-04158-MHP

ROCHE MOLECULAR SYSTEMS, INC.; ROCHE DIAGNOSTICS CORPORATION; ROCHE DIAGNOSTICS OPERATIONS, INC.; ROCHE DIAGNOSTIC SYSTEMS, INC.,

Defendants.

HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY
DEPOSITION OF ERNEST S. KAWASAKI, PH.D.
Washington, D.C.
Thursday, August 24, 2006
9:28 a.m.

Reported by:
Karen Young
CSR - NOTARY PUBLIC
Job No. 51916

Deposition of ERNEST S. KAWASAKI, PH.D., held at the offices of:
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Pursuant to notice, before Karen Young, Notary Public of the District of Columbia.

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CONTENTS

that end of things, so --
Q. Earlier, you mentioned that Dr. Holodniy must have had some agreement with Merigan's -- through Merigan? Did I understand you correctly? What was your testimony relating to an agreement?
MR. WILSON: Objection, vague.
BY MS. RHYU:
Q. Let me withdraw that question. You mentioned an agreement earlier. Did you ever see any agreement pertaining to Dr. Holodniy's presence at Cetus?
A. Can't remember, no.
Q. Did you ever see any agreement between Cetus and Dr. Merigan?
A. The same thing, I can't remember. I don't remember.
Q. When you say you can't remember, are you saying you could have seen such an agreement but you don't remember?
A. No, I can't remember, I can't remember. That's all. I can't remember.
Q. Do you have any specific memory of any conversations you had with Dr. Holodniy?
A. Specific memories? I would say no.
Q. Do you have any general memories of --

A. General memories, yes.
Q. -- discussions that you had with Dr. Holodniy?
A. Again, a general memory is discussions of PCR technologies, what we were doing at Cetus, and in my case, RT-PCR.
Q. What do you remember telling him about RT-PCR?
A. Well, when I say discussions of RT-PCR technology, it just means discussing how the system or protocol works, and these things are all recorded in my lab book.
Q. Did you tell Dr. Holodniy which experiments to perform?
A. Again, I couldn't remember if I told him to do such and such at this point.
Q. Did you supervise Dr. Holodniy's experiments?
A. Probably "supervised" is too strong a word. I probably -- I discussed experiments with him back -- but supervising is a different -- a different thing.
Q. And I just want to get to your memory of what you discussed with him. Aside from --
MR. WILSON: Let her ask the question.
BY MS. RHYU:

Q. Aside from what you said about generally discussing RT-PCR, do you recall anything else that you told Dr. Holodniy regarding PCR technology?
A. At this point I can't say exactly. I know we discussed all these technologies. The exact technologies, the way to do RT-PCR and that kind of stuff was done. Now, if you're -- well, that's basically it.
Q. And what were you about to say?
A. That's why I'm trying to think. I could -- anyway, that's about it. I can't think of anything else other than that.
Q. Do you recall giving Dr. Holodniy any reagents?
A. I can't recall exactly, but I probably did.
Q. Why do you say you probably did?
A. Because he was working in the Cetus lab, so he had to have reagents from Cetus labs, so I assume everybody provided reagents.
Q. Do you know that he was also working at Stanford Labs during that time?
A. I knew he was at Stanford. I don't know exactly what he was doing at Stanford.
Q. So it's possible that he was using reagents that he obtained at Stanford Labs in his experiments.

MR. WILSON: Objection, asked and answered.
BY MS. RHYU:
Q. Could you give an audible answer please?
A. I can't say whether -- where -- but I'm sure we provided him with reagents. Whether he used Stanford reagents too I don't know.
Q. What's your basis for saying that you're sure that we, I suppose that means Cetus, provided him reagents?
MR. WILSON: Asked and answered.
A. Are you saying that if I remember exactly what reagents we gave to him?
Q. I'm just asking if you remember giving him any reagents.
MR. WILSON: Asked and answered.
A. Since he was working at Cetus, he would most likely use Cetus reagents because there was work with Tom Merigan.
Q. You don't particularly remember giving him any reagents though?
A. No.
Q. And do you know if anyone in your lab gave him any reagents?
A. I would say no.
Q. Did you give him any equipment?

experiments?
A. I would say --
MR. WILSON: Objection, vague.
A. I couldn't remember something like that.
Q. Do you remember conveying any confidential information to Dr. Merigan?
MR. WILSON: Calls for a legal conclusion.
A. Can't remember anything like that.
Q. You mentioned earlier that Dr. Holodniy was in Dr. Merigan's lab. Do you have any knowledge about whether Dr. Merigan arranged for Dr. Holodniy to work at Cetus? Do you have any personal knowledge about that?
A. I can't remember, but he probably did. I just assumed it.
Q. You assume it, but you have no personal knowledge about it.
A. I can't -- I can't remember exactly if someone said he's coming from Merigan's lab, but someone comes, you find out where they're from.
Q. Do you know Dr. David Schwartz?
A. No, I don't remember him.
Q. How about Dr. David Katzenstein?
A. Same thing. I don't remember them.
Q. And you don't remember giving any reagents

to either of them?
A. No.
Q. You don't remember having any discussions with either of them?
A. At this point I can't remember, no.
Q. I'm handing you what was previously marked as Exhibit 1. Is this the JID article that you previously mentioned having reviewed in preparation for today's deposition?
A. Let's see. Is this the Journal of Infectious Diseases? Journal of Infectious Disease. Yes, yes, one I think I was looking at.
Q. When did you first become aware of Exhibit 1?
A. This one? I can't remember, but I probably remember it when it came out. That was '91.
Q. Did you think it's likely that you saw it when it first came out?
A. Yes, uh-huh.
Q. And why do you think that?
A. Because I followed a lot of the PCR work back then, and these things -- and also the AIDS research.
Q. Do you remember thinking at the time that you should have been an author on this publication?

A. No, I don't think so. I can't remember if I already left. What year was this that it came out? It came out -- anyway, I don't think so.
Q. Sitting here today, do you think you should have been an author on this publication?
A. No, no.
Q. And you said you reviewed this paper in preparation for today's deposition. Is there anything in your review of the paper that you saw that led you to believe that -- that you had made a contribution to the work described in this publication?
MR. WILSON: Objection, vague, foundation. I guess also to the extent that you reviewed this in connection with preparing for the deposition, don't reveal any communications with counsel.
THE WITNESS: Uh-huh. So your question was again?
MS. RHYU: Could you read it back please?
- - -
THE REPORTER: Question: "And you said you reviewed this paper in preparation for today's deposition. Is there anything in your review of the paper that you saw that led you to believe that you had made a contribution to the work described in this publication?"

- - -
MR. WILSON: Same objections and same caution.
A. In this case, basically it's RT-PCR technology. That's my contribution, and at the time, a lot of stuff was happening. RT technology was not a -- was not a standard thing that everybody could do easily, so that's the technology, a lot of technology was developed at Cetus.
Q. And can you point me specifically to what you're referring to when you say the RT technology?
A. Well, if we look at all the primers that were used, most of them as far as I can tell just by glancing at it are Cetus design.
Q. I'm asking about your personal contribution.
A. RT-PCR?
Q. Yes.
A. It's a thing that he -- I'm pretty sure a lot of the technology was learned at Cetus, and he refers to a chapter in a book.
Q. So are you referring to, on the first page of Exhibit 1, second paragraph, RNA extraction, reverse transcription and amplification of cDNA? Are you referring to that paragraph?
A. Yes.

Q. And the first sentence of that paragraph states, "Total RNA from 200 microliters of serum was extracted using guanidinium thiocyanate and reverse transcribed with MMLD reverse transcriptase by methods previously described." Is that what you're referring to?
A. Yes, that's partly it.
Q. That's partly it? What more -- what more are you referring to as your contribution to this paper?
A. The contribution -- basically the contribution is how to -- the technology of RT-PCR. When you say the contribution, that's what Cetus' contribution was to the technology.
Q. And the RT-PCR is the PCR that's described in these references that are cited to here, 7 and 8?
A. That's one reference out of a lot of the technology that Cetus had at the time. That doesn't explain everything. The reference is one reference.
Q. Is there anything specific in this article that you can say you contributed to the article?
MR. WILSON: Objection, asked and answered multiple times.
A. I've answered already.
Q. So everything that you say -- you've

testified to is all that you can remember that you've contributed to this article?
MR. WILSON: Asked and answered.
A. I would say yes.
Q. I'm handing you what's been marked as Exhibit 638. It's a single page document bearing the Bates number 505700. Do you recognize this document, Dr. Kawasaki?
A. Looks familiar, '88, uh-huh.
Q. The document bears the title "Virus Detection From Cell Sups or Serum."
A. Uh-huh.
Q. And what does this protocol -- what is this protocol? Can you just describe what the protocol is?
A. Okay, let's see. As far as I remember, back then, there was discussion of detecting -- detecting HIV as DNA or as HIV as viral particles, so the way to detect as viral particles, you have to separate cells from viral particles, okay. So if you take a blood sample, there's a huge number of cells. You have to isolate the plasma or serum before you can study viral particles, okay? So this protocol was set up -- I set up -- it actually was an HIV at the time. It was Moloney leukemia virus, and it's a mouse retrovirus which infects -- which is -- infects mouse cell lines,

and there are certain cell lines that produce a large number of viral particles. So I developed a protocol to -- to isolate the viral particles or extract RNA from viral particles to detect retroviral sequences.
Q. Did you ever use this protocol for detecting retroviral sequences from HIV?
A. Can't remember, but I would say no.
Q. Do you know if anyone in your lab ever did that?
A. Not in my lab, but I can't remember, so anyway --
Q. If you compare this protocol to the protocol for RNA extraction in Exhibit 1, would you agree that the RNA extraction protocol in Exhibit 1 is different from the protocol in Exhibit 638?
MR. WILSON: Objection. The documents speak for themselves. Also, are you asking him to make the comparison sitting here today or are you asking for his knowledge?
BY MS. RHYU:
Q. Can you answer the question, Dr. Kawasaki? And I'm referring you to that paragraph that we were looking at earlier, the RNA extraction, reverse transcription and amplification of cDNA on the first page of Exhibit 1.

MR. WILSON: Okay, in that case calls for expert testimony and speculation.
A. Are you saying to say whether it's different or it's just a variation of a theme? RNA extraction -- there are a lot of different RNA extraction methods.
Q. The RNA extraction method in Exhibit 1 uses guanidinium thiocyanate, correct?
MR. WILSON: The document speaks for itself.
A. That's what it does, yes.
Q. You're agreeing with me?
A. Uh-huh.
Q. Yes, and the protocol in Exhibit 638 does not use guanidinium thiocyanate, right?
MR. WILSON: The document speaks for itself.
A. Yes.
Q. Yes, that's correct?
A. Uh-huh, yes.
Q. And I'm handing you what was previously marked as Exhibit 46.
MR. WILSON: Do you have a copy, Counsel?
BY MS. RHYU:
Q. Oh, I'm sorry. Do you recognize Exhibit 36? It's an article that was published in November of 1991 in the Journal of Clinical Investigation.

primer that --
A. That -- whatever we used back then, so I'm just saying in this case it worked better.
Q. In looking at the JID article, Exhibit 1, you referred to some primers that were described in the methods of Exhibit 1. Those primers were not using random hexamers, correct?
A. Let's see.
MR. WILSON: Objection, vague, also misstates the documents.
A. Actually, I can't say what they're using here.
Q. Do you see where it says -- it lists different SK probes?
A. But that was for PCR, not for the --
Q. Is there anything in Exhibit 1 that suggests that random hexamers were used?
A. That's --
MR. WILSON: Objection, calls for expert testimony. The document speaks for itself, also mischaracterizes the document.
A. Okay, well, in this Exhibit 1, the SK primers are for PCR, and in this statement for reverse transcriptase, it doesn't say what he uses. He refers back to this paper. That's all I can say about that.

nucleated cells are created.
Q. Those are the white cells?
A. Yeah, the white cells, and then do it that way. You get a different -- slightly different cell population by fractionating versus lysis, but that's another technical issue
Q. But both of these procedures involve preparation of DNA from cells.
A. Uh-huh, yes.
Q. Dr. Kawasaki, I'm handing you what was previously marked as Exhibit 15. It's U.S. patent number 5,968,730, issued to Thomas Merigan, David Katzenstein and Mark Holodniy. Can you just let me know if you've seen that document before?
A. No.
Q. You have not seen it?
A. I have not seen this.
Q. And I'm handing you what's previously marked as Exhibit 16. It's U.S. patent number 6,503,705. Have you seen this patent before?
A. No, no, not at all.
MS. RHYU: If we could just take a short five-minute break, I can see if there's anything more I need to cover.
MR. WILSON: Sure.

Q. I'm handing you what's been marked as Exhibit 641. This is another chapter from the PCR protocols book. It's chapter 18 entitled "Sample Preparation From Blood Cells and Other Fluids," and you are the sole author of this chapter. Did you write chapter 18 for the PCR protocols book?
A. Yes.
Q. And did you in writing this chapter intend to disseminate information about sample preparation for use in PCR amplifications?
A. Yes, that was the --
Q. Can you turn to page 148?
A. 148, yeah.
Q. There's a section in the middle of the page entitled "Preparation of DNA From White Blood Cells or Whole Blood." Can you just explain the difference between fractionated cells and whole blood?
A. Let's see. Which way did I do this? Okay, so fractionated cells are when you take blood and spin it in a -- in a column, it's called ficoll-hypaque, and what it does is fractionate the red cells from the white cells, and so you can isolate the white cells, and from there, you can isolate DNA or RNA. If you take whole blood without fractionation, you can just lyse the red cells and then just spin out the -- the

MS. RHYU: Thanks.
(Recessed at 12:19 p.m.)
(Reconvened at 12:27 p.m.)
BY MS. RHYU:
Q. Did anyone outside of Cetus ask you about how to perform reverse transcription PCR reactions prior to the publication of the protocols in the PCR protocols book?
A. Can't remember, but I would say probably.
Q. And what was your practice when people asked you about the reverse transcriptase PCR procedure?
MR. WILSON: Objection, vague.
A. What was my reaction?
Q. What was your practice? Did you help them?
MR. WILSON: Objection, vague and foundation.
A. I can't remember something like that because it's just -- I would say I don't know. I can't remember the practice.
Q. I guess what I'm getting at is when outside scientists approached you with a request for help in their RT-PCR reactions, was it your practice to help them or not?
MR. WILSON: Objection, vague, hypothetical, foundation.

I, ERNEST S. KAWASAKI, PH.D., do hereby declare under penalty of perjury that I have read the foregoing transcript; that I have made any corrections as appear noted, in ink, initialed by me, or attached hereto; that my testimony as contained herein, as corrected, is true and correct.

EXECUTED this _____ day of _____, 20_____, at _____, _____.
(City) (State)

_____
ERNEST S. KAWASAKI, PH.D.

CERTIFICATE OF SHORTHAND REPORTER - NOTARY PUBLIC

I, Karen Young, the officer before whom the foregoing deposition was taken, do hereby certify that the forgoing transcript is a true and correct record of the testimony given; that said testimony was taken by me stenographically and thereafter reduced to typewriting under my supervision; and that I am neither counsel for or related to, nor employed by any of the parties to this case and have no interest, financial or otherwise, in its outcome.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal this ____ day of _____, _____.

_____
NOTARY PUBLIC IN AND FOR
THE DISTRICT OF COLUMBIA

My commission expires:
July 31, 2009