

1 UNITED STATES PATENT AND TRADEMARK OFFICE

2
3 BEFORE THE PATENT TRIAL AND APPEAL BOARD

4
5
6 GUARDANT HEALTH, INC.,

7 Petitioner,

8 v.

9 UNIVERSITY OF WASHINGTON,

10 Patent Owner.

11
12 Case No. IPR2022-00817

Patent No. 10,760,127

13
14
15 DEPOSITION UPON ORAL EXAMINATION OF

16 JOHN QUACKENBUSH, PhD

17
18 9:03 A.M.

19 MONDAY, DECEMBER 19, 2022

20 701 FIFTH AVENUE, SUITE 5100

21 SEATTLE, WASHINGTON

22
23 Reported by: Tami Lynn Vondran, CRR, RMR, CCR/CSR

24 WA CCR #2157; OR CSR #20-0477; CA CSR #14435

25 Job Number 5626451

Page 1

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I N D E X

EXAMINATION BY: PAGE:LINE
Mr. Powers 5:21

EXHIBITS FOR IDENTIFICATION PAGE:LINE

(NO EXHIBITS MARKED)

1 SEATTLE, WASHINGTON; MONDAY, DECEMBER 19, 2022

2 9:03 A.M.

3 --000--

4
5 THE VIDEOGRAPHER: Good morning.

6 This is Media Unit Number 1 in the
7 video-recorded deposition of John Quackenbush taken by
8 counsel for patent owner in the matter of
9 Guardant Health, Incorporated versus University of
10 Washington, filed in the United States Patent and
11 Trademark Office before the Patent Trial and Appeal
12 Board. Case Number IPR2022-00817.

13 The location of this deposition is
14 701 Fifth Avenue, Suite 5100, Seattle, Washington 98104.

15 My name is John Thomas representing Veritext,
16 and I'm the videographer. The court reporter is
17 Tami Vondran, also from the firm Veritext.

18 I am not authorized to administer an oath. I
19 am not related to any party in this action, nor am I
20 financially interested in the outcome.

21 If there are any objections to proceeding,
22 please state them at the time of your appearance.

23 Counsel and all present, including remotely,
24 will now state their appearances and affiliations for
25 the record, beginning with the noticing attorney.

1 MR. POWERS: Good morning. My name is Ralph
2 Powers. I'm an attorney from Sterne Kessler Goldstein
3 & Fox. I represent the University of Washington and
4 TwinStrand in this matter. With me is David Holman,
5 also from Sterne Kessler. And Kellie Bickel and
6 Cristina Wittkopp from TwinStrand.

7 MR. ROSATO: Good morning. I'm Mike Rosato
8 from Wilson Sonsini representing Guardant Health. I
9 have with me Sonja Gerrard and Patrick Medley.

10 THE COURT REPORTER: With that, I'll swear in
11 the witness.

12
13 JOHN QUACKENBUSH, PhD,
14 sworn as a witness by the Certified Court Reporter,
15 testified as follows:
16

17 THE COURT REPORTER: Thank you.
18 Please proceed.
19

20 EXAMINATION

21 BY MR. POWERS:

22 Q. Good morning, Dr. Quackenbush.

23 A. Good morning.

24 Q. Will you state your full name for the record,
25 please.

1 A. John Quackenbush.

2 Q. When were you first contacted by Guardant to
3 serve as an expert in this proceeding?

4 A. I don't know. I don't recall.

5 Q. Do you have any recollection at all
6 approximately when you were contacted regarding --

7 A. This specific IPR? I don't recall. I've
8 been -- I don't recall.

9 Q. You've served as an expert for Guardant in
10 other proceedings; is that correct?

11 A. I have, yes.

12 Q. Approximately how many proceedings have you
13 served as an expert for Guardant in?

14 A. Off the top of my head, I don't know. I think
15 I've provided you with a list of previous matters in
16 which I've testified.

17 Q. Would you say it's more than ten?

18 A. I don't think it's that many, but, you know, I
19 don't recall.

20 Q. Okay. What did you do to prepare for today's
21 deposition?

22 A. I read over my declaration, I spent time
23 looking at the '127 patent, and looked at the primary
24 materials that were cited, including the two Travers
25 references, McCloskey and a -- some documentation from

1 New England Biolabs, NEB.

2 Q. Did you look at any other references in
3 connection with your preparation for today?

4 A. Those are the primary references I looked at.
5 I may have looked at a few other things, but those are
6 really the ones I concentrated on.

7 Q. And about how long did you spend preparing for
8 today's deposition?

9 A. I was here yesterday. I arrived around noon
10 from the East Coast. I was here in the offices until
11 around 5:00. I spent some -- so I guess that would be
12 five hours. Spent some additional last night. Maybe
13 another two or three hours. And then prior to arriving
14 here, I also put in some additional time, but I couldn't
15 tell you exactly how long.

16 Q. Can you estimate for me?

17 A. I could make a rough guess, but I would -- I'd
18 be hesitant to do it. I put in some time reviewing
19 things.

20 Q. Give me a rough guess.

21 MR. ROSATO: Objection. Asked.

22 A. I'd be hesitant to do that because it wouldn't
23 be accurate. Yeah.

24 Q. (BY MR. POWERS) Would you say it was more
25 than ten hours?

1 A. It could be, yes.

2 Q. Approximately ten hours?

3 A. Again, I don't know. I looked at materials in
4 the evening when I was at home, but I don't remember how
5 many days. I don't remember exactly how long.

6 Q. Do you keep records of the time that you spend
7 for Guardant Health?

8 A. I keep records of any kind of consulting work
9 that I do.

10 Q. So you do have records that indicate the time
11 that you spent preparing for this deposition; correct?

12 A. Yes, I do.

13 Q. And so if you were to consult those records,
14 you would be able to determine accurately how many hours
15 you spent consult- -- preparing for today's deposition;
16 is that right?

17 A. If I consulted my records, yes --

18 MR. ROSATO: Objection to form.

19 A. -- I could definitely tell you how long I've
20 spent.

21 Q. (BY MR. POWERS) But you're unwilling to
22 estimate, sitting here today, how long you spent
23 preparing for today's deposition; is that right?

24 A. As you can see before me, I don't have copies
25 of my records. So, you know, why give you a wild guess

1 if I don't have the records in front of me.

2 Q. I'm not asking for a wild guess. I'm just
3 asking for an estimate.

4 A. I told you how long I spent yesterday, which
5 is the time I recall. But other than that, I don't want
6 to hazard a guess right now.

7 The last few weeks have been very busy, as you
8 might imagine. It's the end of the semester. We have
9 lots of students doing lots of things. I had to give a
10 final exam this week, so -- this past week. So it's
11 been a busy time.

12 Q. I see.

13 Do you remember when you were first contacted
14 by Guardant to serve as an expert?

15 MR. ROSATO: Objection. Asked.

16 A. So you asked me this question before. And,
17 again, I can tell you I don't recall. Again, I have
18 documentation that I provided as to previous cases in
19 which I've served as an expert. I believe you have
20 those, that I invite you to consult them.

21 Q. (BY MR. POWERS) Yeah. Those records wouldn't
22 tell us when you were first contacted by Guardant to
23 serve as an expert by Guardant; correct?

24 A. They could --

25 MR. ROSATO: Objection to form.

1 A. They could allow you to estimate -- or they
2 would allow me to estimate if I had the records in front
3 of me.

4 Q. (BY MR. POWERS) Would it be fair to say that
5 Guardant contacted you sometime before the first case
6 that you served as an expert for Guardant?

7 A. That's sort of an oddly phrased question. So
8 they contacted me and I agreed to work with them. So
9 yes.

10 Q. Right.

11 Do you recall approximately when that was?

12 A. As I've told you numerous times, I don't
13 recall when that was. I don't have my records in front
14 of me. I didn't review that in preparation for today.

15 Q. Do you have an estimate as to approximately
16 how much you've invoiced to Guardant since they hired
17 you as an expert?

18 A. No. And I wouldn't want to hazard a guess.

19 Q. Is it more than \$100,000?

20 MR. ROSATO: Objection. Asked and answered.

21 A. I wouldn't want to hazard a guess without
22 looking at my records.

23 Q. (BY MR. POWERS) So sitting here today, you
24 have no idea how much you've invoiced Guardant over the
25 course of your relationship as their expert; is that

1 correct?

2 A. I'm a scientist, and I like to be precise when
3 I give answers and as precise as I can --

4 Q. Uh-huh.

5 A. -- so I'm not going to hazard a guess as to
6 how much without having detailed records to consult.
7 And that was not something I prepared for in
8 anticipation of our discussion today.

9 Q. Okay. In preparation for your deposition
10 today, did you review any materials not cited in your
11 declaration?

12 A. I don't recall reviewing anything that was not
13 cited in my declaration in preparation for today.

14 As someone who is a person of skill in the
15 art, I do -- I do rely on my knowledge of the field.

16 Q. Sure.

17 A. And so I rely on much of what happened. So I
18 consulted my memory and things that were relevant to
19 what was known in the art at the time, at least based on
20 my recollection. But physically, I didn't go and do
21 additional research.

22 Q. And in formulating your opinions that you've
23 put forth in your declaration, do you rely on any
24 reference that's not cited in your declaration?

25 A. The declaration lays out my opinions based on

1 my review of the field. And everything I've relied on
2 is cited to in my reference -- in my declaration.

3 Q. Do you recall how many hours you spent
4 preparing your declaration?

5 A. You've asked me many similar questions and my
6 answer --

7 Q. This one's a little different.

8 A. You've asked me many similar questions and my
9 answer is, without being able to consult the records
10 that I keep, I wouldn't be willing to hazard a guess.

11 Q. Did you meet with counsel in preparing your
12 declaration?

13 A. I can say that definitely I did meet with
14 counsel in preparing my declaration, yes.

15 Q. Who did you meet with?

16 A. Primarily, Ms. Gerrard, although Mr. Rosato
17 was also in some meetings, and there may have been
18 additional people who joined at various times.

19 Q. Do you recall how long those meetings lasted?

20 A. Again, as you can see, I don't have my
21 consulting records here, so I don't recall how long they
22 lasted.

23 Q. Do you recall how many meetings there were?

24 A. You can ask me about my consulting and my
25 answer will continue to be the same. Without my records

1 in front of me, I can't tell you how long or how many
2 meetings I had.

3 There may have been some short meetings.
4 There may have been some longer meetings. I couldn't
5 really say.

6 Q. Okay. Your background is in physics; correct?

7 MR. ROSATO: Objection to form.

8 A. My PhD, which I received in 1990, was in
9 theoretical physics.

10 Q. (BY MR. POWERS) And --

11 A. But since 1992, I have worked in the
12 biological sciences, really starting with the Human
13 Genome Project.

14 Q. And you have a master's also in physics;
15 correct?

16 A. I got a master's degree along the way to
17 getting my PhD, yes.

18 Q. And that's in physics?

19 A. Yes, it was in physics.

20 Q. And you have a BS also; correct?

21 A. I have a bachelor's degree in physics, yes, I
22 do.

23 Q. In physics.

24 Do you have any degree that's not in physics?

25 A. So I have had extensive training in the

1 biological sciences. I have received certificates from
2 a number of different workshops on techniques, like
3 cloning and sequences. I don't know if you consider
4 those academic degrees since they aren't.

5 I've had postdoctoral training in the
6 biological sciences. And I have published over 300
7 scientific papers that have now been cited over 89,000
8 times.

9 Earlier this year, I was elected to the
10 National Academy of Medicine.

11 Q. Congratulations.

12 A. Thank you.

13 So while those aren't degrees, they're clearly
14 recognition of my credentials in the biological
15 sciences.

16 Q. Yeah. That wasn't really my question, though.

17 My question was: Do you have a degree that's
18 not in physics, an academic degree?

19 A. You were asking me about my degrees and
20 training, I assume because you're curious about my
21 background and my expertise in this case.

22 Q. I was just asking about your degrees.

23 A. Oh, I'm glad to be able to provide some color
24 for your answers, then.

25 Q. Okay. So the answer is "no," you don't have a

1 degree that's in anything other than physics; is that
2 right?

3 MR. ROSATO: Objection to form.

4 A. As I recently told you, although my formal
5 academic training, which concluded in 1990, was a PhD in
6 physics, previously I'd had a master's and a bachelor's
7 degree. I actually worked for two years as a
8 postdoctoral fellow in physics before being selected by
9 the National Institutes of Health to work on the Human
10 Genome Project. Spent years at the Salk Institute and
11 other organizations. So that by the time the -- these
12 patents were filed, although I did not have a formal
13 degree in anything other than physics, I had extensive
14 training and expertise.

15 Q. (BY MR. POWERS) Have you yourself ever
16 performed wet lab bench research?

17 A. Absolutely, I have.

18 MR. ROSATO: Objection to form.

19 Q. (BY MR. POWERS) Do you have an understanding
20 of what a diffusion coefficient is with respect to a
21 nucleic acid molecule in aqueous solution?

22 MR. ROSATO: Objection to form. Scope.
23 Foundation.

24 A. So I don't believe I talk about diffusion
25 coefficients in my declaration. If you can point me to

1 it, I'd be happy to discuss it.

2 In general, I understand in some contexts what
3 a diffusion coefficient might be. One of the things
4 that's important to understand in biological sciences
5 and other sciences is that many terms often get used in
6 context.

7 And so before offering an opinion about any
8 kind of diffusion coefficient, I'd want to see how that
9 term is used.

10 Q. (BY MR. POWERS) Well, in the context of
11 nucleic acids in aqueous solution, do you have an
12 understanding of what a diffusion coefficient is?

13 MR. ROSATO: Objection. Form. Foundation.
14 And scope.

15 A. So there are lots of different types of
16 aqueous solutions. You can talk about osmotic pressure
17 and diffusion through membranes. You can talk about all
18 sorts of things.

19 So, again, without any context, I wouldn't
20 want to offer an opinion.

21 Q. (BY MR. POWERS) Do diffusion coefficients
22 relate to a molecule's rate of diffusion in a medium?

23 MR. ROSATO: Same objection.

24 A. So as I told you earlier, that's outside the
25 scope of my report.

1 If you have some documentation you'd like me
2 to review, I'd be happy to review that and answer the
3 question in the context in which diffusion coefficient
4 is used in that particular reference.

5 But it can mean -- it may possibly mean that.
6 It may possibly mean other things.

7 Q. (BY MR. POWERS) So when you say it's outside
8 the scope of your report, do you mean that you didn't
9 consider diffusion coefficients in rendering your
10 opinions in your declaration?

11 A. If you'd be so --

12 MR. ROSATO: Objection to form.

13 A. If you'd be so kind as to point me where -- in
14 my report where I refer to diffusion coefficients, I'd
15 be happy to refresh my memory.

16 Q. (BY MR. POWERS) Did you consider diffusion
17 coefficients in rendering your opinions in your
18 declaration?

19 MR. ROSATO: Same objection.

20 A. If you'd like to point to my report where I
21 discuss diffusion coefficients, I'd be happy to refresh
22 my memory.

23 Q. (BY MR. POWERS) Is it your understanding that
24 DNA molecules have a diffusion coefficient?

25 MR. ROSATO: Objection to form.

1 A. DNA molecules can have all sorts of properties
2 that can be measured. DNA molecules may diffuse in
3 different situations in different circumstances. And so
4 one could potentially measure a diffusion coefficient
5 within a particular context.

6 Again, I don't believe I discussed DNA
7 diffusion coefficients in the context of my report. If
8 you can point me to where that appears, I'd be happy to
9 refresh my memory.

10 Q. (BY MR. POWERS) So you said that DNA
11 molecules have all sorts of properties that can be
12 measured.

13 Is diffusion coefficient one of those
14 properties?

15 MR. ROSATO: Objection to form.

16 A. As I told you earlier, I don't believe I
17 discussed diffusion coefficients in my report.

18 If you'd be willing to point me to a portion
19 of my report in which I discuss those, I'd be happy to
20 refresh my memory.

21 In a vague general sense, one could measure a
22 diffusion coefficient for DNA. It would depend on a lot
23 of different parameters, including the context in which
24 it was being measured.

25 Q. (BY MR. POWERS) What are some of the

1 parameters that influence diffusion coefficients of DNA
2 in aqueous solution?

3 MR. ROSATO: Objection to form.

4 A. I'm not prepared to discuss that. It was not
5 a subject in my report, in my declaration.

6 If you can point to me in my declaration where
7 I discuss that, I'd be happy to refresh my memory and
8 answer your question in greater detail.

9 Q. (BY MR. POWERS) Could the length of the DNA
10 molecule influence the diffusion coefficient in aqueous
11 solution?

12 MR. ROSATO: Objection to form.

13 A. I did not discuss diffusion coefficients in my
14 declaration.

15 If you can point me to a place in my
16 declaration where I discuss those, I'd be happy to
17 refresh my memory and answer your question in detail.

18 Q. (BY MR. POWERS) So sitting here today, as far
19 as you recall, you didn't consider diffusion
20 coefficients at all in your declaration; is that right?

21 A. If you can point me to a point in my
22 declaration where I discuss diffusion coefficients, I
23 would be happy to discuss those.

24 In the abstract, I'm afraid I can't answer
25 your question at this point.

1 Q. So as an expert in nucleic acids, can you tell
2 me factors that can influence a DNA molecule's diffusion
3 in aqueous solution?

4 MR. ROSATO: Objection to form.

5 A. Diffusion into what? Through what? Around
6 what?

7 Q. (BY MR. POWERS) Diffusion generally, what
8 factors can influence it?

9 MR. ROSATO: Objection to form.

10 Q. (BY MR. POWERS) Can you speak to that?

11 A. Many things.

12 Q. Okay. I'd like to know some of those things.

13 A. I'm not about to speak to those in abstract.

14 If you can point me to a place in my
15 declaration where I discuss diffusion coefficients, I'd
16 be happy to refresh my memory and provide you with
17 greater detail.

18 Q. So you said many things can influence
19 diffusion in nucleic acids in aqueous solutions.

20 Do I have that correct? You stand by that?

21 MR. ROSATO: Objection. Form.

22 A. I don't recall exactly what I said. If you
23 would like to read it back, I'd be happy to confirm
24 whether or not I said it.

25 Q. (BY MR. POWERS) You said...

1 You said it would depend on a lot of different
2 parameters, including the context in which it was being
3 measured. And you said one could potentially measure
4 diffusion coefficients.

5 And so I'm just trying to understand what
6 factors can influence diffusion coefficients in nucleic
7 acids?

8 MR. ROSATO: Objection to form. Foundation.
9 And scope.

10 A. So many things could potentially influence
11 diffusion coefficients.

12 As I pointed out earlier, my understanding of
13 this proceeding was -- that it was to discuss my
14 declaration relevant to the IPR that had been filed
15 about the '127 patent.

16 To the best of my recollection, I don't
17 believe the references that I cited, the Tavers [sic]
18 patent publication -- sorry, Travers.

19 Q. (BY MR. POWERS) Travers.

20 A. I keep on referring to them as Tavers -- the
21 Travers patent publication, the Travers scientific
22 paper, the McCloskey paper or the NEB brochure.

23 To the best of my recollection, none of those
24 actually speak to diffusion coefficients.

25 Also, to the best of my recollection, none of

1 the claims in the '127 patent speak to diffusion
2 coefficients.

3 And, again, if I'm mistaken in my
4 recollection, and if you can point me to places where
5 those appear in my declaration, I would be more than
6 happy to discuss them in detail.

7 Q. Okay. So you said many things could influence
8 diffusion coefficients, as you pointed out earlier.
9 That's a quote from what you just stated.

10 A. I believe I said many things could potentially
11 influence --

12 MR. ROSATO: Objection to form.

13 A. -- diffusion coefficients.

14 Q. (BY MR. POWERS) You said so many things could
15 influence diffusion coefficients, and so I'm trying to
16 understand if you can name any of those factors that
17 influence diffusion coefficients?

18 A. If I could correct the record --

19 MR. ROSATO: Objection to form.

20 A. If I could correct the record, please. I
21 think I said many -- or I would have -- I should have
22 said many things could potentially influence diffusion
23 coefficients.

24 Q. (BY MR. POWERS) Fair enough.

25 What can potentially influence diffusion

1 coefficients in nucleic acids?

2 MR. ROSATO: Objection to form. Foundation.
3 Scope.

4 A. So as I discussed earlier, my understanding of
5 our goal today is to discuss my declaration and my -- to
6 offer testimony in support of the IPR petition that has
7 been filed.

8 To the best of my recollection, I do not use
9 the term "diffusion coefficient" anywhere in my report.
10 To the best of my recollection, "diffusion coefficient"
11 does not appear in the '127 patent. And to the best of
12 my recollection, "diffusion coefficient" does not appear
13 in either the Travers patent or scientific paper that I
14 cite to, in the McCloskey patent, or the NEB brochure
15 that I offered as grounds in my declaration.

16 If you can point me to those places, I'd be
17 happy to reread them and refresh my memory, and then
18 offer a -- offer the best answer I can provide at that
19 time.

20 Q. (BY MR. POWERS) So sitting here today, as far
21 as you know, you didn't consider diffusion in rendering
22 your opinions in your declaration; correct?

23 MR. ROSATO: Objection to form. Foundation.
24 Scope.

25 A. As I said earlier, sitting here at this

1 moment, I don't recall anywhere in my declaration where
2 I discuss diffusion coefficients.

3 If you would be willing to point me to those,
4 I would be happy to refresh my memory.

5 Also to the best of my recollection, I don't
6 recall "diffusion coefficients" appearing in the '127
7 patent in the claims or the specification. I also don't
8 recall them appearing in either the Travers patent
9 publication, the Travers scientific paper, the
10 McCloskey -- I believe it's a patent publication -- or
11 the NEB documentation.

12 If you would like to show me those, I would be
13 more than happy to refresh my memory and provide you
14 with some additional context.

15 Q. (BY MR. POWERS) Do you think that a person of
16 ordinary skill in the art would understand what
17 diffusion is?

18 MR. ROSATO: Objection to form.

19 A. My son is a junior in high school. Last year
20 he took chemistry; this year he took biology. In both
21 classes, they have discussed diffusion in a variety of
22 different contexts.

23 So he would even be able to tell you that
24 answering that question in the abstract -- as a high
25 school junior now -- is not something that one should

1 do. That one -- when one discusses a scientific term,
2 one really needs to discuss it in context.

3 Q. (BY MR. POWERS) Okay. So your son is a
4 junior in high school, and he's taken classes that
5 relate to diffusion; is that what you said?

6 A. That's absolutely --

7 MR. ROSATO: Objection to form.

8 A. -- not what I said.

9 Q. (BY MR. POWERS) Okay. What did you say?

10 A. I said my son has taken chemistry --

11 Q. Uh-huh.

12 A. -- and he has taken biology. And in both
13 those classes in different contexts, they have discussed
14 different aspects of diffusion. But without greater
15 context, even he, I think, would be hesitant to offer a
16 description of diffusion.

17 So if you're asking me about a specific term
18 in its -- specific scientific term, I would ask you to
19 show me the context so I could review it and give you a
20 good description. See, because I wouldn't want to lead
21 you in the wrong direction.

22 Q. I'll give you some context, Dr. Quackenbush.

23 What about nucleic acids in aqueous solution?
24 Can you discuss any of the parameters that influence
25 diffusion of nucleic acids in aqueous solution?

1 MR. ROSATO: Objection to form. Foundation.
2 Scope.

3 A. So if you could please point me to a
4 scientific reference that you're referring to that you'd
5 like me to explain, I'd be happy to read it and explain
6 it to you.

7 Since you don't seem to understand when I tell
8 you that I need to read something in context to be able
9 to offer a good definition, I'd just ask you once again
10 to please show me the scientific context in the context,
11 in particular, of what we've decided or what we're here
12 to discuss today: My declaration and the '127 patent.

13 Q. (BY MR. POWERS) So you're holding yourself
14 out as an expert in nucleic acids; is that correct?

15 MR. ROSATO: Objection to form.

16 A. I have expertise in nucleic acids --

17 Q. (BY MR. POWERS) Okay.

18 A. -- and many aspects of nucleic acids, their
19 analysis, laboratory techniques in manipulating them,
20 yes.

21 Q. Right.

22 And so in that context, your expertise in
23 manipulating nucleic acids, in laboratory techniques
24 that relate to nucleic acids, can you tell me any
25 factors that influence the diffusion of nucleic acids in

1 aqueous solution?

2 MR. ROSATO: Objection to form. Foundation.
3 And scope.

4 A. You're asking me a vague hypothetical question
5 that's the equivalent of saying, "I went to my doctor
6 and I wanted to find out what influences cancer."

7 And you're asking me to render an opinion in a
8 similar way you'd be asking your doctor to render an
9 opinion about cancer, where breast cancer or colon
10 cancer has many different causes.

11 And, in fact, breast cancer in the universe
12 is -- breast cancer in a woman is likely to have many
13 different causes. And you're asking your oncologist to
14 answer a question in the abstract, which is really kind
15 of meaningless.

16 In the same way, you're asking me sort of a
17 meaningless question about diffusion of nucleic acids
18 without providing context. And I've asked you many
19 times to provide that kind of context.

20 So I'm not -- I'm not going to lead you down a
21 path without the context that -- in which you're asking
22 the question.

23 Q. (BY MR. POWERS) If my doctor couldn't tell me
24 some factors that led to cancer, I would fire them.

25 And right now, I'm just asking you if you can

1 name any factors that influence the diffusion of nucleic
2 acids in aqueous solution?

3 MR. ROSATO: Objection to form. Foundation.
4 Scope. Asked and answered.

5 A. You would be really foolish to take answers
6 from a doctor who provided answers without context. So
7 if that's the choice you want to make, that's fine.

8 As a scientific expert who understands that
9 many of these terms can be used in a variety of
10 different ways, at this moment -- although I've asked
11 you numerous times to provide me with the context,
12 particularly in the '127 patent, my declaration, the two
13 Travers references, the McCloskey reference, and the NEB
14 reference that I cite to in my declaration -- I don't
15 recall diffusion occurring in those.

16 And so in the abstract, I'm not willing to
17 offer an opinion.

18 Q. (BY MR. POWERS) What further context would
19 you need to offer an opinion of diffusion of nucleic
20 acids through aqueous medium?

21 A. To answer your question effectively, I would
22 ask to see the reference in which you're referring to
23 them and I would like to read it and be able to explain
24 it to you.

25 Q. I'm not talking --

1 A. In the same way that if my students asked me a
2 question, I would try to understand it in the context in
3 which they were asking it.

4 Q. Yeah. I'm not talking about a specific
5 reference. I'm just talking about basic physical
6 principles of nucleic acids.

7 So that's the context: Basic principles.

8 MR. ROSATO: Objection to form.

9 Q. (BY MR. POWERS) I'm trying to understand if
10 you can, in that context, name any factor that
11 influences the diffusion of nucleic acids through
12 aqueous solution?

13 MR. ROSATO: Objection to form.

14 A. Going back to my example of going to your
15 oncologist, if you went to talk to your oncologist about
16 breast cancer and the oncologist didn't know if it was
17 breast cancer in you or a female friend or colleague,
18 offering an opinion as to what might cause that breast
19 cancer would not be well advised.

20 And so you're asking me about a scientific
21 term that obviously you're interested in in some
22 particular context, and given the fact that it's outside
23 the scope of my report, to the best of my recollection,
24 and given your unwillingness to provide me with the
25 context in which you'd like me to explain it, I'm not

1 going to offer an opinion at this point in time.

2 Q. (BY MR. POWERS) Does length of a nucleic acid
3 molecule affect diffusion of the molecule through
4 aqueous solution?

5 MR. ROSATO: Objection. Form. Foundation.
6 Scope.

7 A. I'm not going to offer -- I'm not going to
8 answer hypothetical questions about things which could
9 potentially relate to diffusion of DNA molecules without
10 being provided context.

11 As I've noted numerous times already this
12 morning, I do not believe diffusion of DNA is discussed
13 in my declaration. I do not believe it is discussed in
14 the '127 patent. I do not believe it appears anywhere
15 in any of the claim terms. I do not believe that it
16 appears in either of the two Travers references. I do
17 not believe it appears in the McCloskey reference. I do
18 not believe it appears in the NEB brochure that I
19 reference.

20 And so if you'd like to show me in any of
21 those materials, which are the topic of our discussion
22 today, I would be happy to provide an answer in that
23 context.

24 Q. (BY MR. POWERS) So I'm not asking a
25 hypothetical question. I'm asking a very simple,

1 straightforward question.

2 Does length of a nucleic acid molecule affect
3 its diffusion through an aqueous solution?

4 MR. ROSATO: Same objection. Objection to
5 form. Asked and answered.

6 A. So as we've discussed numerous times today, to
7 the best of my recollection, the term "diffusion" or the
8 phrase "diffusion of DNA" does not appear in the '127
9 patent. It does not appear, to the best of my
10 recollection, in either the specifications or any of the
11 claims.

12 To the best of my recollection, the term --
13 the phrase "diffusion of DNA" does not appear in either
14 of the two Travers references that I cite in my
15 declaration. It does not appear in the McCloskey
16 reference. To the best of my recollection, it does not
17 appear in the NEB brochure that I cite, nor does it
18 appear anywhere in my declaration.

19 If you would be willing to point to me where
20 those terms appear, I would be happy to refresh my
21 memory and discuss it in greater detail.

22 Q. (BY MR. POWERS) Okay.

23 MR. POWERS: Can we take a little break?

24 THE WITNESS: Sure.

25 THE VIDEOGRAPHER: We're going off the record.

1 The time is 9:38 a.m.

2 (Brief break taken.)

3 THE VIDEOGRAPHER: We are back on the record.

4 The time is 9:43 a.m.

5 MR. POWERS: Thank you, Dr. Quackenbush. We
6 have no further questions for you.

7 MR. ROSATO: Let's take a break.

8 THE VIDEOGRAPHER: Okay. We're going to go
9 off the record. The time is 9:43 a.m.

10 (Brief break taken.)

11 THE VIDEOGRAPHER: We are back on the record.

12 The time is 9:52 a.m.

13 MR. ROSATO: Dr. Quackenbush, thank you for
14 your time today. We don't have any questions.

15 THE WITNESS: Thank you.

16 THE VIDEOGRAPHER: Okay. This concludes
17 today's deposition. We'll be going off the record at
18 9:52 a.m.

19 (Deposition concluded at 9:52 a.m.)

20 (Reading and signing was not requested.)

21

22

23

24

25

REPORTER'S CERTIFICATE

I, TAMI LYNN VONDRAN, the undersigned Certified Court Reporter/Shorthand Reporter for the State of Washington, the State of Oregon and the State of California, do hereby certify that the sworn testimony and/or proceedings, a transcript of which is attached, was given before me at the time and place stated therein; that any and/or all witness(es) were duly sworn to testify to the truth; that the sworn testimony and/or proceedings were by me stenographically recorded and transcribed under my supervision, to the best of my ability; that the foregoing transcript contains a full, true, and accurate record of all the sworn testimony and/or proceedings given and occurring at the time and place stated in the transcript; that a review of which was not requested; that I am in no way related to any party to the matter, nor to any counsel, nor do I have any financial interest in the event of the cause.

WITNESS MY HAND AND DIGITAL SIGNATURE this 20th day of December, 2022.



TAMI LYNN VONDRAN, CRR, RMR, CCR/CSR
Washington CCR #2157, Expires 10/6/2023
Oregon CSR #20-0477, Expires 9/30/2024
California CSR #14435, Expires 10/31/2023

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[provide - scientific]

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

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