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UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

PREOMICS GMBH AND BIOGNOSYS AG.,

Petitioners,

v.

THE BRIGHAM AND WOMEN'S HOSPITAL, INC.,

Patent Owner.

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Case No. IPR2024-01473

Patent No. 11,435,360

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October 3, 2025

9:00 A.M.

REMOTE DEPOSITION OF OF MICHAEL J. CIMA, Ph.D.

Reported By:

Randi J. Garcia, RPR, CCR

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3	3 WITNESS: MICHAEL J. CIMA, Ph.D.
4 Transcript of the deposition of	4
5 MICHAEL J. CIMA, Ph.D, called for Oral	5 EXAMINATION PAGE
6 Examination in the above-captioned matter,	6
7 said Deposition being taken pursuant to	7 By Mr. Bosco6
8 Federal Rules of Civil Procedure by and	8 By Mr. Rosato:75
9 before RANDI J. GARCIA, Registered	9 By Mr. Bosco84
10 Professional Reporter, CCR, and Notary	10
11 Public, via Zoom, on Friday, October 3, 2025,	11
12 commencing at approximately 9:00 a.m.	12 * * *
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3 By: Stephen P. Bosco, Esq.	3 EXHIBIT DESCRIPTION PAGE
4 100 Orchard Park Dr. Unit 25621	4
5 Greenville, SC 29616	5 Exhibit 2023 Cima declaration 10
6 stephen@sboscolaw.com	6 Exhibit 2024 Cima CV 10
7 and...	7 Exhibit 1001 Patent No.: US 11,435,360 B2 10
8 Reichman Jorgensen Lehman Feldberg	8 Exhibit 2026 Heng reference 80
9 Amit Dhillon Sandhu, Esq.	9
10 100 Marine Parkway, Suite 300	10
11 Redwood Shores, CA 94065	11
12 asandhu@reichmanjorgensen.com	12
13	13
14 Attorneys for the Patent Owner.	14
15 By: Michael T. Rosato, Esq.	15
16 Jad Mills, Esq.	16
17 Wilson Sonsini	17
18 701 Fifth Avenue	18
19 Suite 5100	19
20 Seattle, WA 98104	20
21 mrosato@wsgr.com	21
22 jmills@wsgr.com	22

<p style="text-align: right;">6</p> <p>1 MICHAEL CIMA, Ph.D., after having 2 been first duly sworn, was examined and 3 testified as follows: 4 EXAMINATION 5 BY MR. BOSCO: 6 Q. Good morning, Dr. Cima. 7 A. Good morning, Mr. Bosco. 8 Q. Dr. Cima, do you understand that 9 you're testifying under oath today? 10 A. I do. 11 Q. And just for the record, so where are 12 you located right now? 13 A. Boston, Massachusetts. 14 Q. And we're doing this deposition 15 remotely; correct? 16 A. That's correct. 17 Q. So in view of that, I would just ask 18 that you ensure that you give verbal answers to 19 my questions, which is always a good thing but 20 especially since we're doing this remotely. 21 Do you understand the need to do 22 that?</p>	<p style="text-align: right;">8</p> <p>1 Do you agree to that? 2 A. Sure. I will -- I happen to have my 3 declaration open. I will just minimize... 4 Q. Okay. Thank you. 5 Now, we also had a discussion about 6 another device that you may have with you. I 7 understand you have your phone on the table 8 with you, is that right? 9 A. That's right. 10 Q. And I understand that there may be 11 times during the deposition where you need to 12 access it just to adjust a hearing aid, is that 13 right? 14 A. That's correct. 15 Q. You agree that you won't access that 16 phone for any other reason during the 17 deposition; right? 18 A. I do. 19 Q. Other than the documents preloaded on 20 your laptop that we already discussed, do you 21 have any documents with you on the table next 22 to you or otherwise accessible to you?</p>
<p style="text-align: right;">7</p> <p>1 A. Yes, I do. 2 Q. Who else is in the room with you 3 where you're located? 4 A. Mr. Rosato. 5 Q. Can you say that again? 6 A. Mr. Rosato. 7 Q. And Mr. Rosato is your counsel, is 8 that correct? 9 A. That's correct. 10 Q. Is anyone else present in the room 11 with you? 12 A. No. 13 Q. Now, we had a discussion before the 14 deposition began regarding exhibits. And just 15 to clarify for the record, my understanding is 16 you have a laptop in front of you that has all 17 of the admitted exhibits in this proceeding 18 preloaded to it, is that right? 19 A. That's correct. 20 Q. So consistent with our discussion 21 before, I would ask that you not access any of 22 those exhibits unless I ask you to.</p>	<p style="text-align: right;">9</p> <p>1 A. Yeah. There's exhibit -- just 2 exhibit numbers -- it's a -- I think this is a 3 comprehensive list of all the exhibits and 4 their identifier number. 5 Q. Okay. You want to just put that 6 aside, as you're doing? 7 MR. ROSATO: It's the exhibit list 8 from the case. We can -- 9 MR. BOSCO: Okay. 10 MR. ROSATO: It's up to you, we can 11 keep it out or get rid of it, whatever you 12 want. 13 (Off the record.) 14 BY MR. BOSCO: 15 Q. Dr. Cima, do you understand that 16 you're testifying today in the IPR proceeding 17 that's -- has the number IPR2024-01473? 18 A. Well, I'm testifying in an IPR 19 proceeding. I don't have my -- the documents 20 open to verify the number... 21 THE REPORTER: I'm having a hard 22 time. I hear him but he fades off.</p>

<p style="text-align: right;">10</p> <p>1 MR. BOSCO: Okay.</p> <p>2 MR. ROSATO: Why don't we take a</p> <p>3 short break and work on this.</p> <p>4 MR. BOSCO: Sounds good.</p> <p>5 (Thereupon, a brief recess was taken.)</p> <p>6 BY MR. BOSCO:</p> <p>7 Q. Dr. Cima, while we were on a break I</p> <p>8 put three PDF documents in the chat for this</p> <p>9 Zoom meeting.</p> <p>10 Do you see those?</p> <p>11 A. No, I do not. I'm not in Zoom.</p> <p>12 MR. BOSCO: We'll go off the record</p> <p>13 again. Sorry.</p> <p>14 (Thereupon, Exhibit 2023 was marked for</p> <p>15 identification.)</p> <p>16 (Thereupon, Exhibit 2024 was marked for</p> <p>17 identification.)</p> <p>18 (Thereupon, Exhibit 1001 was marked for</p> <p>19 identification.)</p> <p>20 (off the record)</p> <p>21 BY MR. BOSCO:</p> <p>22 Q. Dr. Cima, as discussed during the</p>	<p style="text-align: right;">12</p> <p>1 Q. Okay. So with respect to</p> <p>2 Exhibit 1001, if I refer to that patent as the</p> <p>3 '360 patent, you'll understand what I'm</p> <p>4 referring to; correct?</p> <p>5 A. Yes.</p> <p>6 Q. Okay. So, Dr. Cima, we mentioned the</p> <p>7 declaration you submitted. Can you estimate</p> <p>8 how much time you spent in preparing that</p> <p>9 declaration?</p> <p>10 A. I can't.</p> <p>11 Q. So is it your testimony that you have</p> <p>12 no ability to estimate the amount of time you</p> <p>13 spent preparing the declaration?</p> <p>14 A. Well, I don't have my billing</p> <p>15 documents in front of me, so that's what I</p> <p>16 would -- to be, you know, accurate I would look</p> <p>17 at my invoicing to date and use that number. I</p> <p>18 don't have that.</p> <p>19 Q. Do you think it was over 50 hours?</p> <p>20 A. I don't know. I mean, I -- since I'm</p> <p>21 under oath, I -- I'm obliged to be as accurate</p> <p>22 as I can, so I don't see the use of me guessing</p>
<p style="text-align: right;">11</p> <p>1 break, I've introduced three exhibits that have</p> <p>2 been premarked in this IPR proceeding. Those</p> <p>3 are Exhibits 2023, Exhibit 2024 and</p> <p>4 Exhibit 1001. So I'm fine if you want to have</p> <p>5 those exhibits, you know, open and available as</p> <p>6 needed. I would just ask that when you're</p> <p>7 answering a question, if you're looking at</p> <p>8 them, just please let me know.</p> <p>9 A. So that -- one's my declaration, one</p> <p>10 is my CV. And, sorry, what was the third?</p> <p>11 Q. Exhibit 1001. And, yeah, I'll go</p> <p>12 over each other of them in a moment.</p> <p>13 So, Dr. Cima, Exhibit 2023 is the</p> <p>14 declaration you submitted in this proceeding;</p> <p>15 correct?</p> <p>16 A. That is correct.</p> <p>17 Q. And Exhibit 2024 is your CV, is that</p> <p>18 correct?</p> <p>19 A. That is correct.</p> <p>20 Q. And Exhibit 1001 is a copy of U.S.</p> <p>21 Patent number 11,435,360; correct?</p> <p>22 A. That's correct.</p>	<p style="text-align: right;">13</p> <p>1 what my -- what my hours were.</p> <p>2 Q. Okay. So I guess, are you unable to</p> <p>3 confirm whether you spent between one and 100</p> <p>4 hours in preparing your declaration?</p> <p>5 A. Yes, I -- obviously I didn't spend</p> <p>6 100 hours.</p> <p>7 Q. Okay. So it is a number less than</p> <p>8 100 --</p> <p>9 A. Yes.</p> <p>10 Q. -- is that correct?</p> <p>11 A. Yes. That's correct.</p> <p>12 Q. Is it safe to assume that it's a</p> <p>13 number greater than 20?</p> <p>14 A. It's pure speculation. I don't think</p> <p>15 you want me to speculate. But, you know, it --</p> <p>16 it's likely to be better -- larger than 20.</p> <p>17 But it's -- that's speculation.</p> <p>18 Q. You're being compensated at a rate of</p> <p>19 \$800 per hour, is that right?</p> <p>20 A. That's right.</p> <p>21 Q. Have you received compensation so</p> <p>22 far, for your work in this case?</p>

<p style="text-align: right;">14</p> <p>1 A. At least one of my invoices has been 2 paid, yes. 3 Q. How much have you received so far? 4 A. I don't keep record -- I mean, 5 somebody has records of that. I don't know 6 what it was off the top of my head. 7 (Clarification by the reporter.) 8 BY MR. BOSCO: 9 Q. To the best of your ability, sitting 10 here today, what is your best estimate of the 11 amount of money you have received already in 12 this proceeding from the patent owner? 13 A. I don't know what -- at what point 14 that invoice went out. So I don't know what -- 15 \$30,000. 16 Q. Okay. And to the best of your 17 ability, sitting here today, what is your best 18 estimate of the total quantity of unpaid 19 invoices that you've submitted to the patent 20 owner? 21 A. I have no idea. I haven't tallied 22 it, for example, in preparation for my</p>	<p style="text-align: right;">16</p> <p>1 yesterday? 2 A. Eight to nine hours. 3 Q. Did you spend any time preparing for 4 this deposition on days other than yesterday? 5 A. Oh, yes. 6 Q. What is your best estimate of the 7 time spent on those other days? 8 A. Well, that's where I have to go, you 9 know, look at my records and see how much time, 10 which day I spent it on, you know, and -- how 11 is this relevant to my declaration? 12 Q. Dr. Cima, the way this works is I ask 13 the questions and you answer them. I know it's 14 unfair but that's the way litigation works. 15 So I'll ask a different question. 16 Did you spend any time preparing for your 17 deposition the day before yesterday? 18 A. Yes. 19 Q. What is your best estimate, sitting 20 here today, of the amount of time you spent 21 preparing the day before yesterday? 22 A. Four hours.</p>
<p style="text-align: right;">15</p> <p>1 deposition. 2 Q. Right. So the question was a little 3 different. The question was, to the best of 4 your ability, sitting here today, what is your 5 best estimate of the total quantity of unpaid 6 invoices? 7 A. Again, would be total speculation. I 8 don't feel I should do that. 9 Q. Okay. I take it then your testimony 10 is you are unable to provide an estimate of the 11 quantity of unpaid invoices, is that correct? 12 A. That is correct. 13 Q. How much time did you spend preparing 14 for today's deposition? 15 A. I keep on saying the same thing. I 16 don't mean to be evasive, but I haven't tallied 17 it up. So I have no estimate. 18 Q. Did you spend any time preparing for 19 this deposition yesterday? 20 A. Yes, I did. 21 Q. Okay. So what is your best estimate 22 of the amount of time you spent preparing</p>	<p style="text-align: right;">17</p> <p>1 Q. Same question for the day prior to 2 that? 3 A. I -- that's starting to get beyond 4 my -- the accuracy of my memory, so I will have 5 to say I can't answer that to the best of my 6 ability. 7 Q. Just to circle back to some questions 8 I probably should have mentioned in the 9 beginning. So is there any reason, that you're 10 aware of, that you can't answer truthfully to 11 the questions I ask today? 12 A. I will answer truthfully. I can't 13 think of a reason why I wouldn't. 14 Q. You're not on any medication or 15 anything that could, you know, impact your 16 ability to answer truthfully? 17 A. No. 18 Q. Okay. Well, let's take a look at 19 Exhibit 2023, which we already discussed, and 20 that's your CV; correct? 21 A. 2023 is my declaration. 22 Q. I'm sorry, yes.</p>

<p style="text-align: right;">18</p> <p>1 Exhibit 2024, let's look at that.</p> <p>2 A. I'm there.</p> <p>3 Q. Okay. So, Dr. Cima, just broadly</p> <p>4 speaking, is your CV accurate to the best of</p> <p>5 your knowledge?</p> <p>6 A. Yes.</p> <p>7 Q. And I know this may be challenging</p> <p>8 giving -- given the length of your experience,</p> <p>9 but can you give me a high-level overview of</p> <p>10 your professional background that you think is</p> <p>11 relevant to this case?</p> <p>12 A. Oh, that I think is relevant to this</p> <p>13 case. So I've -- for, I don't know, 25,</p> <p>14 30 years I worked on a variety of types of</p> <p>15 medical products including --</p> <p>16 MR. BOSCO: Let's go off the record.</p> <p>17 (Off the record.)</p> <p>18 BY MR. BOSCO:</p> <p>19 Q. Dr. Cima, I think we had an audio</p> <p>20 issue when you were in the middle of a question</p> <p>21 before, so let's just strike that, and I'm</p> <p>22 going to ask you some questions about your</p>	<p style="text-align: right;">20</p> <p>1 Q. In the prior proceedings where you</p> <p>2 testified under oath, were any of the patents</p> <p>3 directed to -- either directed to or had claims</p> <p>4 that related to mass spectrometry techniques?</p> <p>5 A. I can't think of any where the claims</p> <p>6 related to mass spectrometry technique.</p> <p>7 Q. Did the patents in any of those prior</p> <p>8 litigations relate to molecular biology?</p> <p>9 A. Yes.</p> <p>10 Q. Which ones?</p> <p>11 A. I can't think of one on the top of my</p> <p>12 head.</p> <p>13 Q. So how is it that you can</p> <p>14 affirmatively answer the question yes, but you</p> <p>15 can't think of which case it is that gives</p> <p>16 you -- that allows you to answer the question</p> <p>17 yes?</p> <p>18 A. How is it? Well, I mean, I can base</p> <p>19 my answer on the topical matter that I covered</p> <p>20 in these many cases. I get asked to do</p> <p>21 numerous times, weigh in on what I would call</p> <p>22 analytical chemistry, so -- and given it's</p>
<p style="text-align: right;">19</p> <p>1 prior testimony.</p> <p>2 And the first one is, have you ever</p> <p>3 testified under oath before?</p> <p>4 A. Yes.</p> <p>5 Q. How many times, to the best of your</p> <p>6 knowledge, have you testified under oath</p> <p>7 before?</p> <p>8 A. About once or twice a year for</p> <p>9 30 years.</p> <p>10 Q. Now, can you give me -- have all of</p> <p>11 those prior instances of testimony been in</p> <p>12 patent related matters?</p> <p>13 A. Yes, all of them have been</p> <p>14 intellectual property matters.</p> <p>15 Q. And has your testimony included</p> <p>16 testimony at district court and at the patent</p> <p>17 office?</p> <p>18 A. Yes.</p> <p>19 Q. Have any of your prior cases related</p> <p>20 to mass spectrometry techniques?</p> <p>21 A. I mean, what -- it depends what you</p> <p>22 mean by "related."</p>	<p style="text-align: right;">21</p> <p>1 health related, then we're going to talk about</p> <p>2 biology. So yeah, I can't give you a</p> <p>3 definitive -- I don't have a comprehensive list</p> <p>4 of all the cases that I testified in. So I --</p> <p>5 I can't really give you an answer.</p> <p>6 Q. Okay. So sitting here today, you</p> <p>7 can't identify a particular case that you</p> <p>8 testified in that related to mass spectrometry;</p> <p>9 correct?</p> <p>10 A. I think I answered that one; right?</p> <p>11 Because you said related to mass spectroscopy</p> <p>12 in the claims. I'm -- I -- I'm pretty sure</p> <p>13 I've never or I'm very sure I have never worked</p> <p>14 on a patent where the claims related to mass</p> <p>15 spectroscopy, but, you know, the specification</p> <p>16 may have provided mass spectroscopy data. So</p> <p>17 in support of claims, but the claims themselves</p> <p>18 weren't a new mass spectroscopy method, for</p> <p>19 example.</p> <p>20 Q. Okay. And sitting here today, you</p> <p>21 can't think of any particular case you worked</p> <p>22 on where the patents were directed to molecular</p>

<p style="text-align: right;">22</p> <p>1 biology or related to molecular biology, is 2 that right? 3 A. Well, I've worked on -- in testimony, 4 not my own patents. I can't really answer this 5 question. I'd have to review all my cases. 6 Q. Dr. Cima, the question was, sitting 7 here today, can you identify a case that you 8 worked on previously that related to molecular 9 biology? 10 A. I can't definitively say which ones 11 of these cases you would agree are related to 12 molecular biology. 13 Q. So I'm asking -- this is a yes-no 14 question, it should be simple, I think. 15 Dr. Cima, is it correct that sitting 16 here today you can't identify a prior case you 17 worked on that related to molecular biology? 18 "Yes" or "no"? 19 A. Well, whenever I hear, at these 20 things, that there has to be a "yes" or "no" 21 answer, I would say well I -- "yes" or "no" is 22 there -- that's not an appropriate response to</p>	<p style="text-align: right;">24</p> <p>1 Q. So, okay, what other courses are you 2 teaching now? 3 A. I teach that graduate class now. 4 That's my fall appointment. And then in the 5 spring I teach a graduate -- we'll call it a 6 kinetics class. So it's -- you know, basically 7 you can think of it as reactions occurring over 8 time. 9 Q. Looking back at your prior teaching 10 experience, is it correct that you've never 11 taught a course in molecular biology? 12 A. No. I've never taught a course in 13 molecular biology. 14 Q. Okay. Just so the record's clear 15 that -- then, it's true that you have never 16 taught a course in molecular biology; right? 17 A. I've never taught a course in 18 molecular biology. 19 Q. Okay. And that -- sorry, it was an 20 awkward question. 21 You never taught a course in the life 22 sciences before, have you?</p>
<p style="text-align: right;">23</p> <p>1 answer truthfully. I have to answer 2 completely. And there is no complete "yes" or 3 "no" answer. 4 Q. Okay. So do I understand correctly 5 that you're a professor of engineering in the 6 material science department at MIT? 7 A. Yes. My academic appointment's in 8 material science and my research appointment is 9 at the Koch Institute, which is cancer research 10 institute. 11 Q. What courses do you teach, if any, at 12 MIT? 13 A. Oh, I mean, you're talking currently 14 or over 39 years? 15 Q. Let's start with currently. 16 Currently what courses do you teach? 17 A. Currently I'm teaching a -- a surface 18 chemistry class which includes things like 19 polymer absorption on particles and that's a -- 20 that's about a -- 21 Q. I'm sorry, can you repeat that? 22 A. That's about a third of the course.</p>	<p style="text-align: right;">25</p> <p>1 A. Well, no. I teach a course in 2 medical product development which is all about 3 the life sciences. 4 Q. And in that course on medical product 5 development, do you teach the students anything 6 about mass spectrometry techniques? 7 A. Well, what comes -- we use outcome -- 8 one of the sections is on outcome measures. So 9 basically you can think of it, those portions 10 of diagnostics that can be used to see whether 11 you're affecting the course of disease and so 12 that includes, you know, analytical methods to 13 assess proteins, for example. 14 Q. So I didn't -- I don't think I quite 15 got a direct answer. In that course, did you 16 teach the students about mass spectrometry 17 techniques? 18 A. Other than -- I mean, depends on what 19 you mean by "teach mass spectroscopy 20 techniques." 21 Q. And let's clarify. Am I saying it 22 wrong, is it mass spectroscopy, not mass</p>

<p style="text-align: right;">26</p> <p>1 spectrometry?</p> <p>2 A. It's used interchangeably.</p> <p>3 Q. Okay. So they're both correct. So</p> <p>4 we'll both understand if either of us uses</p> <p>5 either one we mean the same thing; right?</p> <p>6 A. Right.</p> <p>7 Q. Okay. So let's -- I'll ask the</p> <p>8 question again just so the record's clear.</p> <p>9 In the course you referred to before</p> <p>10 on medical device -- device development --</p> <p>11 A. No. That's not correct. It's</p> <p>12 medical product development which includes both</p> <p>13 pharmaceuticals and -- and devices.</p> <p>14 Q. Okay. In that course, did you ever</p> <p>15 teach students about mass spectrometry</p> <p>16 techniques?</p> <p>17 A. Well, I'm assuming -- this is</p> <p>18 graduate course, so I'm assuming they're</p> <p>19 familiar with the -- you know, how to carry out</p> <p>20 the technique --</p> <p>21 Q. So I got to ask you to answer the</p> <p>22 question asked. Okay.</p>	<p style="text-align: right;">28</p> <p>1 That's pretty much what it is. Sort of boring,</p> <p>2 but I've only been there for 39 years.</p> <p>3 Q. You've never been in the biology</p> <p>4 department at MIT; correct?</p> <p>5 A. No. I'm at the Koch Institute, which</p> <p>6 is half cancer biology and half engineering.</p> <p>7 Q. And your half is the engineering</p> <p>8 side; right?</p> <p>9 A. That's right.</p> <p>10 Q. Looking back at your prior testimony,</p> <p>11 sitting here today, can you think of any prior</p> <p>12 case where you've been admitted as an expert in</p> <p>13 molecular biology?</p> <p>14 A. Molecular biology. They would -- I</p> <p>15 mean, it would always include some reference to</p> <p>16 biology because we're talking about drugs or</p> <p>17 medical devices or things like that. So I</p> <p>18 don't know that the introduction to the court</p> <p>19 was we're introducing Michael Cima as an expert</p> <p>20 in molecular biology. It could have been an</p> <p>21 expert in, you know, a particular medical</p> <p>22 device or that sort of thing. So no, I can't</p>
<p style="text-align: right;">27</p> <p>1 The question was, did you teach the</p> <p>2 students in that class about mass spectrometry</p> <p>3 techniques, "yes" or "no"?</p> <p>4 A. We use -- they do use results from</p> <p>5 mass spectrometry, but they don't -- I don't,</p> <p>6 you know, teach them from the beginning. You</p> <p>7 know, they're -- it's a graduate course so</p> <p>8 they've had that material, so -- to prepare</p> <p>9 them for this course I guess is the way I would</p> <p>10 say it.</p> <p>11 MR. BOSCO: I'm going to move to</p> <p>12 strike that as nonresponsive.</p> <p>13 BY MR. BOSCO:</p> <p>14 Q. Stepping back at your -- looking at</p> <p>15 your career more broadly at MIT, what other</p> <p>16 professorial positions have you held at MIT</p> <p>17 other than the one you're currently in?</p> <p>18 A. What other positions? So I've always</p> <p>19 been a professor. I've been -- I was associate</p> <p>20 dean of engineering for five years. I've had</p> <p>21 different professorships over that period. I'm</p> <p>22 currently the David H. Koch professor. Yeah.</p>	<p style="text-align: right;">29</p> <p>1 think of a case.</p> <p>2 Q. Sitting here today, can you think of</p> <p>3 any case in which you've been admitted as an</p> <p>4 expert in biological assays?</p> <p>5 A. Well, I founded a company, T2</p> <p>6 Biosystems, which developed a medical</p> <p>7 biological assay.</p> <p>8 Q. So that wasn't the question at all.</p> <p>9 I've got to ask you, Dr. Cima, to answer the</p> <p>10 question asked. It's very important. I've</p> <p>11 given you a lot of leeway, but you do need to</p> <p>12 answer the question asked.</p> <p>13 The question is, sitting here today,</p> <p>14 can you think of a prior case in which you were</p> <p>15 admitted as an expert in biological assays?</p> <p>16 MR. ROSATO: Objection to form.</p> <p>17 THE WITNESS: I can't think of it off</p> <p>18 the top of my head.</p> <p>19 BY MR. BOSCO:</p> <p>20 Q. And you've never been admitted as an</p> <p>21 expert in a case that involved mass</p> <p>22 spectrometry techniques before; right?</p>

<p style="text-align: right;">30</p> <p>1 A. Well, I think I answered that before.</p> <p>2 Q. Dr. Cima, please answer the question</p> <p>3 asked.</p> <p>4 MR. ROSATO: Objection to form.</p> <p>5 THE WITNESS: So related -- if you go</p> <p>6 back to the record, you asked me before</p> <p>7 whether I --</p> <p>8 BY MR. BOSCO:</p> <p>9 Q. Dr. Cima, don't tell me about what's</p> <p>10 in the record --</p> <p>11 MR. ROSATO: Counsel, you got to let</p> <p>12 him --</p> <p>13 Q. -- answer the question asked.</p> <p>14 MR. ROSATO: -- finish his answer</p> <p>15 without interrupting --</p> <p>16 MR. BOSCO: He's not answering the</p> <p>17 question. Can you get your witness to</p> <p>18 answer the question asked?</p> <p>19 MR. ROSATO: He can't answer a</p> <p>20 question when you interrupt him in --</p> <p>21 halfway through what he's saying.</p> <p>22 MR. BOSCO: He wasn't answering the</p>	<p style="text-align: right;">32</p> <p>1 admitted as an expert in a case that involved</p> <p>2 mass spectrometry; correct?</p> <p>3 MR. ROSATO: Objection, form. Asked</p> <p>4 and answered.</p> <p>5 BY MR. BOSCO:</p> <p>6 Q. Dr. Cima, do you understand that if</p> <p>7 your counsel lodges an objection it does not</p> <p>8 relieve you of the obligation to answer the</p> <p>9 question?</p> <p>10 A. I think the issue here is I've</p> <p>11 answered this question before.</p> <p>12 MR. BOSCO: Let's go off the record.</p> <p>13 I'd like to talk to your counsel.</p> <p>14 (Thereupon, a brief recess was taken.)</p> <p>15 BY MR. BOSCO:</p> <p>16 Q. Dr. Cima, I've been struggling to get</p> <p>17 an answer to what I thought was a simple</p> <p>18 question.</p> <p>19 It is correct, is it not, that you</p> <p>20 have never before been admitted as an expert in</p> <p>21 a case involving mass spectrometry techniques?</p> <p>22 MR. ROSATO: Objection to form.</p>
<p style="text-align: right;">31</p> <p>1 question. I'll ask it again.</p> <p>2 BY MR. BOSCO:</p> <p>3 Q. So, Dr. Cima, you have never before</p> <p>4 been admitted as an expert in a case involving</p> <p>5 mass spectrometry techniques; correct?</p> <p>6 MR. ROSATO: Objection to form.</p> <p>7 Asked and answered.</p> <p>8 THE WITNESS: Yeah, that's the</p> <p>9 question I answered before.</p> <p>10 MR. BOSCO: Counsel, can you have</p> <p>11 your witness answer the question asked,</p> <p>12 please.</p> <p>13 THE WITNESS: Did you hear that?</p> <p>14 MR. ROSATO: There's no question</p> <p>15 pending.</p> <p>16 MR. BOSCO: There was a question</p> <p>17 pending. It wasn't answered. We can take</p> <p>18 a break, if you want, and talk about it.</p> <p>19 I've been giving a lot of leeway. I'll</p> <p>20 ask it again.</p> <p>21 BY MR. BOSCO:</p> <p>22 Q. Dr. Cima, you have never before been</p>	<p style="text-align: right;">33</p> <p>1 Asked and answered.</p> <p>2 THE WITNESS: If you look back on the</p> <p>3 record that's already there, I've answered</p> <p>4 this question. And specifically what I've</p> <p>5 said is that while the claims may not</p> <p>6 have -- of the patent at question may not</p> <p>7 have involved mass spectroscopy</p> <p>8 techniques, the specification and support</p> <p>9 of those claims undoubtedly in some of the</p> <p>10 cases I've worked on have -- has included</p> <p>11 mass spectroscopy techniques. So that's</p> <p>12 how I'll answer.</p> <p>13 BY MR. BOSCO:</p> <p>14 Q. Has your testimony ever been excluded</p> <p>15 before?</p> <p>16 A. Not that I know of.</p> <p>17 Q. And has your testimony ever been</p> <p>18 found not credible by a court or tribunal</p> <p>19 before?</p> <p>20 A. Not that I know of.</p> <p>21 Q. How many IPRs have you testified in</p> <p>22 before?</p>

<p style="text-align: right;">34</p> <p>1 A. I don't know. I can't recall how 2 many. I know it's been several. 3 Q. Do you think it's less than 10? 4 A. Well, they didn't start until, what, 5 2008, I think, 2009. 6 Q. Right. So the question was, do you 7 think it's less than 10? 8 A. Yeah. I think it would have to be; 9 right? Because it's only been 15 years, so 10 less than one a year. Yes. It has got to be 11 less than 10. 12 Q. Okay. Let's shift gears a little. 13 Are you offering any claim 14 construction opinions in this proceeding? 15 A. No. I think the claim construction 16 in what I've -- what I have acknowledged as 17 part of the claim construction is in my 18 declaration. 19 Q. Okay. But my question is, in your 20 declaration, are you offering any opinions as 21 to claim construction? 22 A. Any opinions? Can I get my</p>	<p style="text-align: right;">36</p> <p>1 BY MR. BOSCO: 2 Q. Dr. Cima, are you able to answer 3 whether you have any opinions on claim 4 construction without looking at the document? 5 A. To answer completely, I want to look 6 at what my testimony was. 7 Q. Dr. Cima, that wasn't the question I 8 asked. My question is, are you able to tell me 9 if you have any opinions on claim construction 10 in this case without looking at your 11 declaration? 12 MR. ROSATO: Objection to form. 13 Asked and answered. 14 THE WITNESS: All right. So when I 15 look at -- so what I recall is that I 16 ended up agreeing with the construction 17 the Board suggested. And if I was allowed 18 to look at my testimony, I would go there 19 and give you a more complete and accurate 20 answer. 21 BY MR. BOSCO: 22 Q. Okay. My question now is, what is</p>
<p style="text-align: right;">35</p> <p>1 declaration up and go to that section? 2 Q. Do you need to in order to know if 3 you're offering any opinions on claim 4 construction? 5 A. Well, to answer completely I should 6 look at my previous testimony to make sure I 7 get -- review the entire thing. 8 Q. Before you look, can you just tell me 9 if -- sitting here today, without looking at 10 your declaration, are you able to tell me if 11 you're offering any opinions on claim 12 construction? 13 A. I want to -- 14 MR. ROSATO: Object to form. If the 15 witness is asking for a document, he 16 should be given to -- you have the 17 document. 18 MR. BOSCO: I'm asking him to answer 19 the question without looking at the 20 document. And I'm asking if he's able to 21 answer it without looking at the document. 22 It's a simple question.</p>	<p style="text-align: right;">37</p> <p>1 your understanding of the plain and ordinary 2 meaning of biological sample? 3 A. Well, then I'm going to go definitely 4 to the -- my declaration and review that. 5 Q. And I'll let you do that in a second. 6 I'll just ask again, though, are you able to 7 give me any information about the plain and 8 ordinary meaning of biological sample without 9 looking at your declaration? 10 MR. ROSATO: Objection to form. 11 THE WITNESS: Well, the way this 12 works, as you know, when I look at 13 biological sample in a claim, I have to 14 look at, one, plain and ordinary meaning, 15 but also look at the patent and see what 16 the specification describes as the meaning 17 of biological sample, which, of course, is 18 one of the things that my declaration 19 deals with. And if I were allowed to look 20 at it, I would give you a more complete 21 answer. 22</p>

<p style="text-align: right;">38</p> <p>1 BY MR. BOSCO:</p> <p>2 Q. And my question was just about the</p> <p>3 first part. So my question was just about the</p> <p>4 plain meaning, not what the patent said. So</p> <p>5 I'll ask again.</p> <p>6 What is your understanding, sitting</p> <p>7 there now, without looking at your declaration,</p> <p>8 of the plain and ordinary meaning of biological</p> <p>9 sample?</p> <p>10 MR. ROSATO: Objection to form.</p> <p>11 Asked and answered.</p> <p>12 THE WITNESS: So, you know, what --</p> <p>13 what I'm cognizant of, Mr. Bosco, is that</p> <p>14 if I just focus on biological meaning or</p> <p>15 biological sample, the meaning of</p> <p>16 biological sample, then there will be a</p> <p>17 sound bite that is used to say what -- my</p> <p>18 opinion, what it is. But that's not the</p> <p>19 complete story. So I'm very hesitant to</p> <p>20 create a record that is going to allow you</p> <p>21 to put words in my mouth.</p> <p>22</p>	<p style="text-align: right;">40</p> <p>1 times now.</p> <p>2 MR. BOSCO: The problem is it hasn't</p> <p>3 been answered.</p> <p>4 MR. ROSATO: It has been answered.</p> <p>5 He keeps telling you, you don't do this in</p> <p>6 a vacuum. And he's already provided</p> <p>7 testimony.</p> <p>8 MR. BOSCO: Right. I didn't ask him</p> <p>9 for the context of the patent, I asked him</p> <p>10 for the plain meaning of the term</p> <p>11 biological sample.</p> <p>12 BY MR. BOSCO:</p> <p>13 Q. So I take it you don't have an</p> <p>14 understanding of the plain meaning of</p> <p>15 biological sample --</p> <p>16 A. That's --</p> <p>17 Q. -- is that your testimony?</p> <p>18 A. No.</p> <p>19 Q. If it's not your testimony, then tell</p> <p>20 me what your understanding is.</p> <p>21 MR. ROSATO: Object to form.</p> <p>22 THE WITNESS: It's -- in the context</p>
<p style="text-align: right;">39</p> <p>1 BY MR. BOSCO:</p> <p>2 Q. I understand you're uncomfortable</p> <p>3 answering the question, but that's the nature</p> <p>4 of a deposition. So if your answer is you</p> <p>5 don't have any understanding of the plain and</p> <p>6 ordinary meaning of biological sample, then</p> <p>7 tell me that. If you do have an understanding,</p> <p>8 then tell me that.</p> <p>9 MR. ROSATO: Object to form.</p> <p>10 THE WITNESS: I have some -- what</p> <p>11 I've come to conclude, that this -- in the</p> <p>12 biological sample in the claim is meant to</p> <p>13 be a sample derived from a subject or</p> <p>14 patient.</p> <p>15 MR. BOSCO: I'm going to move to</p> <p>16 strike that as nonresponsive.</p> <p>17 BY MR. BOSCO:</p> <p>18 Q. The question was, what is your</p> <p>19 understanding of the plain and ordinary meaning</p> <p>20 of biological sample?</p> <p>21 MR. ROSATO: Oppose. Object to form.</p> <p>22 This has been asked and answered like five</p>	<p style="text-align: right;">41</p> <p>1 of this patent, it's a sample derived from</p> <p>2 a patient.</p> <p>3 BY MR. BOSCO:</p> <p>4 Q. And what does it mean not in context</p> <p>5 of this patent?</p> <p>6 MR. ROSATO: Object to form and</p> <p>7 foundation.</p> <p>8 THE WITNESS: It could be a sample</p> <p>9 derived from an animal.</p> <p>10 BY MR. BOSCO:</p> <p>11 Q. And does the patent contemplate</p> <p>12 samples derived from animals?</p> <p>13 MR. ROSATO: Object to form and</p> <p>14 foundation.</p> <p>15 THE WITNESS: The patent contemplates</p> <p>16 samples derived from a subject or a</p> <p>17 patient.</p> <p>18 BY MR. BOSCO:</p> <p>19 Q. So is it your testimony that the '360</p> <p>20 patent does not contemplate samples derived</p> <p>21 from animals?</p> <p>22 A. I'd have to --</p>

<p style="text-align: right;">42</p> <p>1 MR. ROSATO: Object to form and 2 foundation. 3 THE WITNESS: I'd have to look for -- 4 I'd have to look through the patent to see 5 whether they include animals in there. 6 BY MR. BOSCO: 7 Q. Okay. So -- 8 A. You asked me the -- what was it, the 9 plain and ordinary meaning. 10 Q. Yes. So outside the context of the 11 '360 patent, what is your understanding of the 12 plain and ordinary meaning of biological 13 sample? 14 MR. ROSATO: Object to form. 15 Foundation. Asked and answered. 16 THE WITNESS: So, yeah, I think 17 generally people -- out of -- without any 18 context, if I say about biological sample, 19 it's from an animal or person. 20 BY MR. BOSCO: 21 Q. Okay. So have you, Dr. Cima, ever 22 obtained a biological sample from a patient</p>	<p style="text-align: right;">44</p> <p>1 some of the papers here, they isolate just 2 the cell wall from the red blood cells, 3 for example. 4 You know, it depends upon the context 5 of what you're trying to measure, exactly 6 all those steps, before it gets into a 7 mass spec. 8 BY MR. BOSCO: 9 Q. Okay. So it seems like it's fair to 10 say that the sample that's actually used in 11 something like mass spec is quite different in 12 form from the -- what was literally taken out 13 of the patient, is that true? 14 MR. ROSATO: Objection to form and 15 foundation. 16 THE WITNESS: Well, it's always 17 derived from it. But, yes, you have to -- 18 any person, you know, operating the LC 19 mass spec would be doing a number of steps 20 to ensure that you maximize the signal 21 from -- from the intended analytes that 22 you want to characterize.</p>
<p style="text-align: right;">43</p> <p>1 before? 2 A. Many times. I have trials going on 3 right now -- well, let me say. I don't take 4 them, obviously the clinical staff take them, 5 but I have trials going on right now that -- 6 where we're taking biological samples. Blood 7 samples, for example. 8 Q. Okay. Can you walk me through the 9 process that typically occurs when a biological 10 sample is taken from a patient and then is 11 ultimately used in some type of assay along the 12 lines of the ones used in the '360 patent? 13 MR. ROSATO: Objection to form and 14 foundation. 15 THE WITNESS: Yeah. A blood sample 16 is taken, stabilized, so usually the 17 vacuum tube has a -- has a stabilizer in 18 it, and then there's quite a number of 19 steps to -- before it goes through into a 20 LC/MS machine. It has to be -- amongst 21 the most significant is -- is getting rid 22 of electrolytes and -- and, you know, in</p>	<p style="text-align: right;">45</p> <p>1 So, yes, there -- lots of steps. I 2 wouldn't say it's very different. But it 3 is important to -- I mean, this is where 4 you compare one -- you know, like one 5 publication to another publication on the 6 same thing. And if they haven't had the 7 same prep, it -- you might get different 8 results. 9 And -- which is why it's -- you know, 10 some of the problems, Dr. Vargas' 11 testimony, she compares, you know, this 12 measurement with some other measurement 13 and it's not -- the comparison is not 14 validated because the preparation was 15 different. 16 BY MR. BOSCO: 17 Q. Okay. So now thinking about tissue 18 samples, like say for a cancer biopsy, do you 19 have any personal experience with obtaining 20 tissue samples from patients? 21 A. Yeah. Biopsy samples, yes. 22 Q. Now, is it true that sometimes when a</p>

<p style="text-align: right;">46</p> <p>1 tissue sample is taken -- well, strike that.</p> <p>2 Let me ask a better question.</p> <p>3 When a tissue sample is taken, the</p> <p>4 tissue is still living tissue, is it not?</p> <p>5 A. Yes. I mean, at the instant your --</p> <p>6 your -- the biopsy needle is going in, for</p> <p>7 example, it's obviously living at that point.</p> <p>8 Q. And after the sample is taken, the</p> <p>9 cells may still divide again; isn't that right?</p> <p>10 A. It's -- depending on the conditions,</p> <p>11 but generally speaking you're going to -- if</p> <p>12 you're going to do a proteomic analysis, you're</p> <p>13 going to trypsinize everything and, you know,</p> <p>14 so it's going to be -- it's not going to be</p> <p>15 living at that point.</p> <p>16 Q. Right. But I guess my question is --</p> <p>17 I'll ask it a different way. There are</p> <p>18 circumstances where tissue samples of living</p> <p>19 tissue are taken and the cells subsequently</p> <p>20 divide after the sample is taken, is that not</p> <p>21 correct?</p> <p>22 MR. ROSATO: Objection to form.</p>	<p style="text-align: right;">48</p> <p>1 BY MR. BOSCO:</p> <p>2 Q. -- context of the '360 patent.</p> <p>3 THE REPORTER: I'm sorry, Counsel. I</p> <p>4 didn't get your full question. There was</p> <p>5 an objection.</p> <p>6 MR. BOSCO: Yeah. Let me ask that</p> <p>7 again. I'll strike that.</p> <p>8 BY MR. BOSCO:</p> <p>9 Q. So, Dr. Cima, you just testified</p> <p>10 about a tissue sample you had experience with</p> <p>11 in the context of cancer research. With</p> <p>12 respect to that sample that you testified</p> <p>13 subsequently -- that subsequently still</p> <p>14 divided, do you understand that to be a</p> <p>15 biological sample?</p> <p>16 MR. ROSATO: Objection to form and</p> <p>17 foundation.</p> <p>18 THE WITNESS: So the biopsy is</p> <p>19 definitely a biological sample, but after</p> <p>20 it's passaged in an animal, it's no longer</p> <p>21 a biological sample representative of the</p> <p>22 subject of the patient.</p>
<p style="text-align: right;">47</p> <p>1 THE WITNESS: Yeah. We -- I often</p> <p>2 get involved -- in fact, I have</p> <p>3 experiments going on right now for what's</p> <p>4 called patient derived xenografts, and</p> <p>5 that's where we take a human tumor and</p> <p>6 implant a piece of it, I guess you'd say,</p> <p>7 and plant it in an animal and get the</p> <p>8 tumor to grow.</p> <p>9 And -- so clearly, through that</p> <p>10 process, the cells are continuing to</p> <p>11 divide. And, of course, that's not a</p> <p>12 preparation technique that's going into</p> <p>13 mass spec, so just to be clear.</p> <p>14 BY MR. BOSCO:</p> <p>15 Q. But now that sample that you just</p> <p>16 testified about that's still dividing, is that</p> <p>17 a biological sample based on your --</p> <p>18 A. The sample --</p> <p>19 MR. ROSATO: Objection to form and</p> <p>20 foundation.</p> <p>21 THE WITNESS: The sample --</p> <p>22</p>	<p style="text-align: right;">49</p> <p>1 So it now becomes infiltrated with --</p> <p>2 if it's in a mouse, for example, with</p> <p>3 mouse cells. And -- so it's not -- at any</p> <p>4 point following that would I say it's a</p> <p>5 biological sample from the subject.</p> <p>6 BY MR. BOSCO:</p> <p>7 Q. And just to clarify, so I'm not</p> <p>8 asking you about when it's been introduced into</p> <p>9 the mouse or any other animal. My question is</p> <p>10 just, is it still a biological sample after</p> <p>11 some cell division occurs?</p> <p>12 MR. ROSATO: Objection to form.</p> <p>13 Foundation.</p> <p>14 THE WITNESS: The patent contemplates</p> <p>15 taking a sample from a patient and</p> <p>16 processing those cells. Its -- cell lysis</p> <p>17 is actually described and there's a whole</p> <p>18 list of things to do to it. If I were</p> <p>19 allowed to look at the patent, I can</p> <p>20 provide you that list.</p> <p>21 BY MR. BOSCO:</p> <p>22 Q. For this line of questions now, feel</p>

<p style="text-align: right;">50</p> <p>1 free to look at any of the introduced documents</p> <p>2 and just let me know if you are looking at it</p> <p>3 and which one.</p> <p>4 A. So -- so if I'm going to the patent,</p> <p>5 column -- I think it's 20. Here, let me go</p> <p>6 there. Yep.</p> <p>7 So the term "sample" refers to a</p> <p>8 biological sample or a complex biological</p> <p>9 sample obtained from a subject. Suitable</p> <p>10 biological samples include, but are not limited</p> <p>11 to, biological fluids, including, but not</p> <p>12 limited to, systemic blood, plasma, serum, lung</p> <p>13 lavage, cell lysates, menstrual blood, urine,</p> <p>14 processed tissue samples. So there you go.</p> <p>15 Amniotic fluid, cerebral spinal fluid, tears,</p> <p>16 saliva, semen, and the like. In a preferred</p> <p>17 embodiment, the sample is blood or serum</p> <p>18 sample.</p> <p>19 But anyway, I think you get the idea.</p> <p>20 They talk about processed tissue samples.</p> <p>21 So -- from that patient.</p> <p>22 Q. Right. And so my question is when --</p>	<p style="text-align: right;">52</p> <p>1 those cells within the sample divide, does that</p> <p>2 make it any less of a biological sample as that</p> <p>3 term is used in the '360 patent?</p> <p>4 MR. ROSATO: Objection to form.</p> <p>5 Asked and answered.</p> <p>6 THE WITNESS: The answer is it</p> <p>7 depends; right. I gave you an example</p> <p>8 where it clearly is not.</p> <p>9 BY MR. BOSCO:</p> <p>10 Q. But does the fact of cell division</p> <p>11 have any bearing whatsoever on whether it's a</p> <p>12 biological sample or not?</p> <p>13 MR. ROSATO: Object to form.</p> <p>14 THE WITNESS: Well, the passage</p> <p>15 number, the number of cell divisions</p> <p>16 outside of the body does have an impact on</p> <p>17 that; right? Because --</p> <p>18 Q. Okay.</p> <p>19 A. -- the more passages, the less and</p> <p>20 less it represents the sample taken from the</p> <p>21 subject, which is the biological sample at</p> <p>22 issue here.</p>
<p style="text-align: right;">51</p> <p>1 if a tissue sample is taken from a patient, if</p> <p>2 some of those cells divide, does that make it</p> <p>3 any less of a biological sample as used in the</p> <p>4 '360 patent?</p> <p>5 MR. ROSATO: Objection to form.</p> <p>6 THE WITNESS: Well, I'll give you a</p> <p>7 case where it's not, as decided by the</p> <p>8 '360 patent. For example, the HeLa cell</p> <p>9 issue; right. The HeLa cell issue are</p> <p>10 immortalized cancer cells. They have --</p> <p>11 they're famously, literally famously,</p> <p>12 different than the sample taken from the</p> <p>13 patient. Because, I mean, I've seen -- I</p> <p>14 think people have done studies of</p> <p>15 estimates of how many passages HeLa cells</p> <p>16 have gone through. So they are not the</p> <p>17 same as the biological sample taken from a</p> <p>18 subject.</p> <p>19 BY MR. BOSCO:</p> <p>20 Q. So again, that wasn't the question I</p> <p>21 asked. The question I asked was if a tissue</p> <p>22 sample is taken from a patient and some of</p>	<p style="text-align: right;">53</p> <p>1 Q. That's interesting. So just for the</p> <p>2 record, can you define the term "passage</p> <p>3 number"?</p> <p>4 A. Cell divisions is the way to describe</p> <p>5 it. Because when the cell divides, you know,</p> <p>6 its phenotype is also dictated by its context,</p> <p>7 what it's around. And if it's in a body, it's</p> <p>8 one thing. If it's in a plate, it's a</p> <p>9 different thing. And each time it divides, it</p> <p>10 gets more and more different. And so that's</p> <p>11 famous -- as I said, famously known to occur,</p> <p>12 and it's one of the reasons why they often</p> <p>13 record and -- in a publication just how many</p> <p>14 passages has happened.</p> <p>15 Q. And does the '360 patent put any</p> <p>16 limit on the number of passages for a</p> <p>17 biological sample to qualify as a biological</p> <p>18 sample?</p> <p>19 MR. ROSATO: Objection to form.</p> <p>20 THE WITNESS: Well, it has to be</p> <p>21 representative of the subject.</p> <p>22</p>

<p style="text-align: right;">54</p> <p>1 BY MR. BOSCO:</p> <p>2 Q. Where are you getting that from?</p> <p>3 A. Well, it's -- the term "sample"</p> <p>4 refers to a biological sample or a complex</p> <p>5 biological sample obtained from a subject. And</p> <p>6 if it passages a lot, it won't be the same as</p> <p>7 the sample taken from the subject.</p> <p>8 Q. So the term you just said,</p> <p>9 "representative of a subject," that doesn't</p> <p>10 appear in the language of the patent that you</p> <p>11 just read; right?</p> <p>12 MR. ROSATO: Objection to form.</p> <p>13 BY MR. BOSCO:</p> <p>14 Q. Yes-or-no question.</p> <p>15 A. The --</p> <p>16 MR. ROSATO: Objection to form.</p> <p>17 THE WITNESS: There's no word</p> <p>18 "representative" there, but the teaching</p> <p>19 of the specification, me as a POSA reading</p> <p>20 it, is referring to -- the biological</p> <p>21 sample refers to the sample obtained from</p> <p>22 a subject.</p>	<p style="text-align: right;">56</p> <p>1 MR. ROSATO: Objection to form.</p> <p>2 THE WITNESS: Well, depending upon</p> <p>3 the -- originally, of course, yes, that's</p> <p>4 true, but they have been passaged so many</p> <p>5 different times that they bear no</p> <p>6 resemblance to the original, the original</p> <p>7 cells obtained from the donor.</p> <p>8 BY MR. BOSCO:</p> <p>9 Q. I understand you want to add things</p> <p>10 that are not what I asked, but I've got to ask</p> <p>11 you to just answer the question asked, okay?</p> <p>12 MR. ROSATO: Object to form. He's</p> <p>13 answering your question.</p> <p>14 MR. BOSCO: Why don't we take a</p> <p>15 break, if that makes sense to everyone. I</p> <p>16 know we haven't been on the record that</p> <p>17 long, but for me it's like we've been</p> <p>18 going an hour or so.</p> <p>19 Does that work?</p> <p>20 THE WITNESS: Sure.</p> <p>21 (Thereupon, a brief recess was taken.)</p> <p>22</p>
<p style="text-align: right;">55</p> <p>1 BY MR. BOSCO:</p> <p>2 Q. And what does the term "HeLa" mean,</p> <p>3 to the best of your knowledge?</p> <p>4 A. Oh, it had -- it's derived from the</p> <p>5 original donor, the name of the original donor</p> <p>6 who is an ovarian cancer patient I think in</p> <p>7 the -- I don't recall maybe the '60s or very</p> <p>8 early on. So it's been most the times</p> <p>9 passaged.</p> <p>10 Q. And what was her name?</p> <p>11 A. Oh, God. I can't remember. I would</p> <p>12 have to Google it. It's famous -- it's a</p> <p>13 famous situation where you have to be careful</p> <p>14 of, you know, interpretation -- interpreting</p> <p>15 data from these HeLa cells, so...</p> <p>16 The good thing is, though -- I mean,</p> <p>17 why people use it is it's kind of a benchmark</p> <p>18 for testing samples, but it doesn't really</p> <p>19 represent the cancer that the original donor</p> <p>20 had.</p> <p>21 Q. So all HeLa cells derive from one</p> <p>22 person; correct?</p>	<p style="text-align: right;">57</p> <p>1 BY MR. BOSCO:</p> <p>2 Q. Dr. Cima, welcome back.</p> <p>3 A. Hi.</p> <p>4 Q. Before the break we were talking</p> <p>5 about HeLa cells, and I wanted to ask you, does</p> <p>6 the name Henrietta Lack [sic] ring a bell to</p> <p>7 you?</p> <p>8 A. Yes. That's the original donor.</p> <p>9 Q. So Henrietta Lack is the original</p> <p>10 donor from whom all HeLa cells derive; correct?</p> <p>11 A. That's right.</p> <p>12 Q. Why didn't you mention that in your</p> <p>13 declaration?</p> <p>14 A. Well, let's go there. What did I</p> <p>15 mention about HeLa cells?</p> <p>16 Q. Yeah. No, take a few minutes, if you</p> <p>17 want to, to -- and if you can identify any part</p> <p>18 of your declaration where you mention either</p> <p>19 Henrietta Lack or the fact that all HeLa cells</p> <p>20 derive from a single donor, please let me know.</p> <p>21 A. Well, the first instance where I</p> <p>22 refer to it is paragraph 44 where I</p>

<p style="text-align: right;">58</p> <p>1 characterize the HeLa cell line as an</p> <p>2 immortalized cell line, which it is.</p> <p>3 And let's see. Then 55, yeah, I</p> <p>4 characterized HeLa cells as an immortalized</p> <p>5 cell line, which they are.</p> <p>6 Q. So to get back to my question, you</p> <p>7 can't identify any part of your declaration</p> <p>8 where you say that all HeLa cells derive from a</p> <p>9 single donor; right?</p> <p>10 MR. ROSATO: Objection to form.</p> <p>11 THE WITNESS: I think that's well</p> <p>12 known in the literature. I didn't feel --</p> <p>13 it wasn't necessary for me to state that.</p> <p>14 I preceded it as, "As the literature will</p> <p>15 state also, that HeLa cell line is an</p> <p>16 immortalized cell line."</p> <p>17 BY MR. BOSCO:</p> <p>18 Q. And again, to get to my question, you</p> <p>19 never included in your declaration the fact</p> <p>20 that all HeLa cells derive from a single donor;</p> <p>21 right? "Yes" or "no"?</p> <p>22 MR. ROSATO: Objection to form.</p>	<p style="text-align: right;">60</p> <p>1 HeLa cell line as an immortalized cell</p> <p>2 line. It's -- those cells are not from</p> <p>3 the donor. They are different from the</p> <p>4 cells taken from the donor. That's my</p> <p>5 point.</p> <p>6 So I guess I would say they are not;</p> <p>7 right. I just told you why they are not.</p> <p>8 They are an immortalized cell line. They</p> <p>9 are different than the cells on the day</p> <p>10 they were taken from the donor. Those</p> <p>11 cells are different from what I can order</p> <p>12 from a supplier.</p> <p>13 BY MR. BOSCO:</p> <p>14 Q. And that's true any time cells</p> <p>15 divide; right?</p> <p>16 MR. ROSATO: Objection to form.</p> <p>17 Foundation.</p> <p>18 THE WITNESS: Well, it takes some</p> <p>19 work to get them in a state where we would</p> <p>20 call it immortalized; right? So each time</p> <p>21 they divide, well, it takes a lot of</p> <p>22 divisions before they actually reach a --</p>
<p style="text-align: right;">59</p> <p>1 THE WITNESS: Well, the complete</p> <p>2 answer is -- includes how I identified it.</p> <p>3 And how I identified it is that it is a</p> <p>4 immortalized cell line. And you seem to</p> <p>5 want me to say that -- identify it</p> <p>6 differently. So...</p> <p>7 I mean, it's my testimony. The way I</p> <p>8 testified was that it's known as an</p> <p>9 immortalized cell line, of which there are</p> <p>10 a number of them. But that's just one of</p> <p>11 them.</p> <p>12 BY MR. BOSCO:</p> <p>13 Q. And you chose not to tell the board</p> <p>14 in your sworn written testimony that the HeLa</p> <p>15 line of cells all derive from a single donor;</p> <p>16 right?</p> <p>17 MR. ROSATO: Objection to form.</p> <p>18 THE WITNESS: You seem to be implying</p> <p>19 I was trying to hide something from the</p> <p>20 Board. That's not in any way</p> <p>21 characterizing my testimony.</p> <p>22 My testimony clearly identifies the</p>	<p style="text-align: right;">61</p> <p>1 I guess you'd call it a steady state in</p> <p>2 phenotype, as best you can. So...</p> <p>3 BY MR. BOSCO:</p> <p>4 Q. And the '360 patent doesn't put any</p> <p>5 upper limit on the number of cell divisions,</p> <p>6 does it?</p> <p>7 A. Well, the limit it puts is that the</p> <p>8 sample has to be from a donor, needs to -- a</p> <p>9 complex sample from a donor. So if you look at</p> <p>10 Kai [ph], for example, they're growing these</p> <p>11 cells in a plate. And it -- there's -- it's a</p> <p>12 greatly oversimplified environment than what</p> <p>13 would be derived from a biopsy, for example.</p> <p>14 Because a biopsy has a -- you know, like vast</p> <p>15 amount of extra protein there.</p> <p>16 And so what the patent is really</p> <p>17 talking about is a complex mixture derived from</p> <p>18 a subject or a patient not from a cell culture</p> <p>19 plate which is dramatically simple in its</p> <p>20 chemical, you know, composition compared with</p> <p>21 the original sample. So...</p> <p>22 As well as the fact that the cells</p>

<p style="text-align: right;">62</p> <p>1 are different from what was originally taken. 2 So it's a -- it's a completely different 3 situation. So this is -- the art that's being 4 taught here is from these complex biological 5 samples. 6 So if you go to 20, it -- it's -- it 7 actually says that in the first sentence in 8 paragraph -- starting at 34. "The term sample 9 refers to a biological sample or a complex 10 biological sample that came from a subject." 11 Q. So you would agree that the term 12 "sample" is not limited to complex biological 13 samples; right? 14 A. Well, it does limit it, complex 15 biological sample. 16 Q. So your understanding of the term 17 "sample" is that it has to be a complex 18 biological sample, is that right? 19 A. Well, from -- 20 MR. ROSATO: Objection to form. 21 THE WITNESS: Well, from the words 22 here, it says "biological sample," if you</p>	<p style="text-align: right;">64</p> <p>1 including, but not limited to, systemic 2 blood, plasma, serum, lung." 3 You know, these are all -- so that's 4 biological sample. Whether you want to 5 refer to those as complex or not, the 6 actual sentence only refers to them as 7 biological samples. 8 BY MR. BOSCO: 9 Q. Okay. I want to shift -- 10 MR. ROSATO: Again, you're 11 interrupting the witness, Counsel. 12 MR. BOSCO: I thought he was 13 finished. 14 MR. ROSATO: I know it's hard over 15 Zoom, but, yeah, we got to do our best. 16 BY MR. BOSCO: 17 Q. Are you finished with your answer? 18 A. Well, I just want to be sure. You 19 were trying to derive a distinction between a 20 biological sample or a complex biological 21 sample. And -- so I'll let the inventors weigh 22 in on what a biological sample. And that's</p>
<p style="text-align: right;">63</p> <p>1 just -- or a complex biological sample 2 obtained from a subject. 3 BY MR. BOSCO: 4 Q. Right. So there is an "or" -- 5 there's the phrase "biological sample," and 6 then there's the word "or," and then there's 7 the phrase "complex biological sample." Right? 8 So doesn't that mean that a sample can be 9 either a biological sample or complex 10 biological sample? 11 MR. ROSATO: Are we going to let the 12 witness finish his answers? There's a lot 13 of interruption going on. I've let a lot 14 of them pass, but he really needs to be 15 allowed to finish his answer. 16 MR. BOSCO: Yeah. He has been. And 17 there have been a lot of nonresponsive 18 answers that you haven't policed. 19 THE WITNESS: So the second sentence 20 defines biological sample; right. 21 "Suitable biological samples include, but 22 are not limited to, biological fluids,</p>	<p style="text-align: right;">65</p> <p>1 included in the next sentence. And those are 2 all, you know, samples derived from a patient. 3 Q. Okay. Are you finished with your 4 answer? 5 A. I'm finished. Can you -- 6 Q. Yes. I can hear you. Yeah. 7 So I want to shift gears a little bit 8 and ask about mass spectrometry. 9 A. Okay. 10 Q. Would you agree that the '360 patent 11 contemplates that mass spectrometry can be used 12 with the patented method? 13 MR. ROSATO: Objection to form. 14 THE WITNESS: So if I go to the 15 claim -- why can't I see -- oh, here it 16 is. 17 There's no limitation on the method 18 of analysis here. So is one of them mass 19 spectroscopy? Yes, of course. But 20 there's no limitation. 21 BY MR. BOSCO: 22 Q. And then just to kind of reinforce</p>

<p style="text-align: right;">66</p> <p>1 that, could you take a look at Claim 4 of the 2 '360 patent. 3 A. Yes. 4 Q. And does the term mass -- actually, 5 just for the record, can you read the entirety 6 of Claim 4? 7 A. "The method of Claim 1, wherein the 8 assaying performed using gel-electrophoresis, 9 liquid chromatography, mass spectrometry, 10 nuclear magnetic resonance spectroscopy, 11 Fourier transform spectroscopy, circular 12 dichroism, Raman spectroscopy, or any 13 combination thereof." 14 So yes, so the method Claim 1 is then 15 in Claim 4, which is a dependent claim, they 16 list what they contemplate are different ways 17 to characterize the protein coronas. 18 Q. And in Claim 4, one of those ways 19 that's expressly identified is mass 20 spectrometry; right? 21 A. That is right. 22 Q. Okay. And likewise, would you agree</p>	<p style="text-align: right;">68</p> <p>1 BY MR. BOSCO: 2 Q. Well, let's start with the 3 mathematical definition. What's that? 4 MR. ROSATO: Objection to form. 5 Foundation. 6 THE WITNESS: Oh, God. How do I put 7 that into words? If I define a set as a 8 collection of elements, a subset of the 9 set is -- the subset contains elements 10 that are within the elements of the set. 11 So they can include all of them. Or -- 12 but that's kind of the mathematical 13 picture. 14 BY MR. BOSCO: 15 Q. And just in using that concept of 16 subset that you just testified about, a subset 17 need not be representative of the entire set; 18 correct? 19 MR. ROSATO: Objection to form. 20 Foundation. 21 THE WITNESS: Yeah, so when I look at 22 the claim, for example, so if you're</p>
<p style="text-align: right;">67</p> <p>1 that the '360 patent contemplates that shotgun 2 methods can be used in conjunction with the 3 patented method? 4 A. Yes. 5 MR. ROSATO: Objection to form. 6 BY MR. BOSCO: 7 Q. Okay. Different set of questions. I 8 want to ask you about the term "subset." And 9 here I would like to ask for your understanding 10 of the term "subset," the plain and ordinary 11 meaning of it outside the context of the '360 12 patent. 13 MR. ROSATO: Objection to form and 14 foundation. 15 THE WITNESS: Well, I need be tied to 16 some, you know, context. I mean, I can 17 tell you the mathematical definition of a 18 subset, but if you looked it up, there 19 would be all kinds of definitions. So why 20 don't you bring me to the context of what 21 you want. 22</p>	<p style="text-align: right;">69</p> <p>1 talking about 1(b) -- 2 BY MR. BOSCO: 3 Q. No. I was just asking you about the 4 plain meaning that -- the meaning that you were 5 using in your answer to the prior question, the 6 mathematical meaning. Let's refocus on that. 7 MR. ROSATO: Objection to form and 8 foundation. 9 THE WITNESS: Yeah. It's -- the 10 mathematical meaning, which is -- may not 11 be how to construct subset in this claim, 12 does say that the subset elements have to 13 be among those elements in the set. They 14 can be a portion of them or they can be 15 all of them. 16 BY MR. BOSCO: 17 Q. So almost definitionally I think you 18 would agree the subset does not need to be 19 representative of the entire set? 20 MR. ROSATO: Objection to form and 21 foundation. 22 THE WITNESS: What do you mean by</p>

<p style="text-align: right;">70</p> <p>1 "representative"?</p> <p>2 BY MR. BOSCO:</p> <p>3 Q. Well, if you have a set of four</p> <p>4 things A, B, C, D, and you take a subset of it,</p> <p>5 the subset could be just A; right?</p> <p>6 A. So let me just do it this way. Let's</p> <p>7 have two types of elements in the set. I have</p> <p>8 five elements of A and five elements of B. A</p> <p>9 subset would be -- would include four elements</p> <p>10 of A and four elements of B.</p> <p>11 Q. And they could also include just B;</p> <p>12 right?</p> <p>13 A. If I could pick those, yes. Because</p> <p>14 it didn't -- needn't be all of them.</p> <p>15 Q. Let's take a look at the '360 patent</p> <p>16 and go to Figure 65, if you could.</p> <p>17 MR. BOSCO: And just for the record,</p> <p>18 this is Exhibit 1001.</p> <p>19 THE WITNESS: Figure 65. Okay. Here</p> <p>20 I am.</p> <p>21 What's your question?</p> <p>22</p>	<p style="text-align: right;">72</p> <p>1 Q. So item 712 are the actual particles?</p> <p>2 A. Right. There are -- there is the</p> <p>3 particles that where they're -- all the</p> <p>4 particles are not the same. They have</p> <p>5 different physical, chemical properties.</p> <p>6 Q. And I guess, what do the circles</p> <p>7 represent in that sensor array?</p> <p>8 A. Well, the array example -- so if you</p> <p>9 go up to the previous paragraph on column 21,</p> <p>10 Figure 65 shows an exemplary scheme of the</p> <p>11 presently disclosed array system. Now, of</p> <p>12 course, this is just one embodiment; right. So</p> <p>13 the claim is not limited to this one</p> <p>14 embodiment.</p> <p>15 But you're asking specifically about</p> <p>16 this one. It includes a step one where a</p> <p>17 complex biological sample, e.g. blood, can be</p> <p>18 collected from a subject expressing a</p> <p>19 biological state, disease state. Suitable</p> <p>20 biological sample 704 include, but are not</p> <p>21 limited to, down the list. In a preferred</p> <p>22 embodiment, the sample is blood. Got it.</p>
<p style="text-align: right;">71</p> <p>1 BY MR. BOSCO:</p> <p>2 Q. Can you describe at a high level what</p> <p>3 Figure 65 is depicting?</p> <p>4 A. Oops. This is one of the embodiments</p> <p>5 that's discussed in the patent. And</p> <p>6 specifically this deals with the embodiments</p> <p>7 that describe an array.</p> <p>8 Q. And where is the array in Figure 65?</p> <p>9 A. I think -- let me be careful here.</p> <p>10 Have to look at the specification to find out</p> <p>11 if 710 -- yeah, 710 is defined as a sensor</p> <p>12 array.</p> <p>13 Q. Okay. So item 710 is the sensor</p> <p>14 array, is that your testimony?</p> <p>15 A. That's what the -- if you look on</p> <p>16 column 21, line -- I think it's 33, or</p> <p>17 thereabouts, it defines 710 as the sensor</p> <p>18 array.</p> <p>19 Q. And then what are items -- the items</p> <p>20 that are labeled 712?</p> <p>21 A. A plurality of particles with</p> <p>22 different physiochemical properties.</p>	<p style="text-align: right;">73</p> <p>1 Next, it can be -- that sample can be</p> <p>2 incubated with the entire sensor array, which</p> <p>3 is composed of a plurality of particles with</p> <p>4 different physiochemical properties. And the</p> <p>5 plurality particles can be incubated with the</p> <p>6 plasma to allow biomolecules in the plasma 706</p> <p>7 to bind to one or more of the particles 712.</p> <p>8 So that's -- so each one of those</p> <p>9 little circles in the array is, I guess, kind</p> <p>10 of a cartoon version of the different particles</p> <p>11 that are meant to be -- comprise the test.</p> <p>12 Q. Okay. So how many particle types are</p> <p>13 within each one of the circles?</p> <p>14 A. I'm presuming -- well, I don't --</p> <p>15 they don't say. But it could -- it could be</p> <p>16 two or it could be three. It could be one.</p> <p>17 They don't say. It's just that each one of</p> <p>18 those is meant to represent different samples.</p> <p>19 Q. Okay.</p> <p>20 A. And that the binding of proteins to</p> <p>21 those different samples will be different. You</p> <p>22 know, the coronas produced will be different</p>

<p style="text-align: right;">74</p> <p>1 from one to the other.</p> <p>2 Q. Okay. Have you ever worked with</p> <p>3 sensor arrays like what's depicted in Figure 65</p> <p>4 before?</p> <p>5 A. Composed of particles and trying to</p> <p>6 do -- produce coronas, is that -- you're asking</p> <p>7 me that or --</p> <p>8 Q. No, no. Just, I'm asking about</p> <p>9 whether you have experience with sensor arrays</p> <p>10 as depicted in Figure 65.</p> <p>11 A. Sensor arrays. I mean, I need to</p> <p>12 know the context. There's -- if you're talking</p> <p>13 about for protein characterization and binding</p> <p>14 of protein, I mean, arrays -- interpretation of</p> <p>15 array can be pretty broad.</p> <p>16 So they clearly define what they mean</p> <p>17 by an array here. As defined in the patent, I</p> <p>18 have -- I haven't worked with something like</p> <p>19 that where we have different particles and I'm</p> <p>20 absorbing all those particles.</p> <p>21 MR. BOSCO: Okay. So I'm actually</p> <p>22 going to take another break to confer with</p>	<p style="text-align: right;">76</p> <p>1 A. Yes.</p> <p>2 Q. You have a copy of your declaration</p> <p>3 in front of you --</p> <p>4 A. I do.</p> <p>5 Q. -- is that correct?</p> <p>6 A. Yup.</p> <p>7 Q. Okay. Let's turn to page 22 and look</p> <p>8 at paragraph -- starting at 43 of your</p> <p>9 declaration and let me know when you're there.</p> <p>10 A. I'm there.</p> <p>11 Q. And this is under the heading, the</p> <p>12 section heading Claim Construction; correct?</p> <p>13 A. That's right.</p> <p>14 Q. You discuss the term "biological</p> <p>15 sample" in paragraphs 43 and 44.</p> <p>16 Do you see that?</p> <p>17 A. Yes.</p> <p>18 MR. BOSCO: Objection. Leading.</p> <p>19 BY MR. ROSATO:</p> <p>20 Q. Do you address the term "biological</p> <p>21 sample" in your declaration?</p> <p>22 A. Yes. I had earlier talked about</p>
<p style="text-align: right;">75</p> <p>1 my colleagues. This may be a short</p> <p>2 deposition. But yeah. How about we take</p> <p>3 another 10-minute break?</p> <p>4 THE WITNESS: Okay. Thank you.</p> <p>5 (Thereupon, a brief recess was taken.)</p> <p>6 MR. BOSCO: Welcome back, Dr. Cima.</p> <p>7 Thank you for your time. I have no</p> <p>8 further questions for you right now. If</p> <p>9 your counsel has questions for you,</p> <p>10 though, I may ask some follow ups.</p> <p>11 MR. ROSATO: Go off the record, take</p> <p>12 a break.</p> <p>13 (Thereupon, a brief recess was taken.)</p> <p>14 FURTHER EXAMINATION</p> <p>15 BY MR. ROSATO:</p> <p>16 Q. Dr. Cima, I just have a few questions</p> <p>17 in redirect. I'll start by asking, do you</p> <p>18 recall being asked questions about the term</p> <p>19 "biological sample"?</p> <p>20 A. Yes.</p> <p>21 Q. And do you recall earlier today being</p> <p>22 asked if you addressed claim construction?</p>	<p style="text-align: right;">77</p> <p>1 paragraph 44, in the discussion we had about</p> <p>2 HeLa cells. But, yes, there are two paragraphs</p> <p>3 here, 43 and 44, that go over this claim</p> <p>4 construction of biological -- a biological</p> <p>5 sample.</p> <p>6 Q. And do you stand by the testimony</p> <p>7 that you provided in paragraph 43 of your</p> <p>8 declaration?</p> <p>9 A. Yes.</p> <p>10 Q. What is that testimony, in short?</p> <p>11 A. Well, in short it's as emphasized</p> <p>12 there, and in the -- I think fifth line, these</p> <p>13 are samples obtained from a subject. And then</p> <p>14 the next sentences have to do with quotes from</p> <p>15 the Vargas transcript in which she acknowledges</p> <p>16 the subject is meant to be a patient and used</p> <p>17 interchangeably. And then I just -- yeah, I</p> <p>18 think -- I thought we both agreed on that</p> <p>19 definition.</p> <p>20 Q. By both you mean you and Dr. Vargas?</p> <p>21 A. Dr. Vargas, yeah.</p> <p>22 Q. And you state that in the first</p>

<p style="text-align: right;">78</p> <p>1 sentence of paragraph 43; correct?</p> <p>2 MR. BOSCO: Objection. Leading.</p> <p>3 THE WITNESS: Well, yeah, that's what</p> <p>4 it says. "I understand that Dr. Vargas</p> <p>5 identified in the specification '360</p> <p>6 patent -- '360 patent an express</p> <p>7 definition for the term 'a biological</p> <p>8 sample."</p> <p>9 BY MR. ROSATO:</p> <p>10 Q. Did you just read from the first</p> <p>11 sentence of paragraph 43?</p> <p>12 A. "I understand that Dr. Vargas</p> <p>13 identified in the specification of the '360</p> <p>14 patent an express definition for the term 'a</p> <p>15 biological sample."</p> <p>16 And -- yeah, then it gives the</p> <p>17 precise location in the transcript for that</p> <p>18 discussion.</p> <p>19 Q. What's identified in the next</p> <p>20 sentence of your declaration there in</p> <p>21 paragraph 43?</p> <p>22 MR. BOSCO: Objection. Leading.</p>	<p style="text-align: right;">80</p> <p>1 paragraphs you mentioned earlier or not, but do</p> <p>2 you discuss HeLa cells in this paragraph?</p> <p>3 A. Yes, I do.</p> <p>4 Q. In paragraph 52 you identify</p> <p>5 Exhibit 2026.</p> <p>6 A. Yeah, the Heng reference. And I</p> <p>7 quote him here in 52. It says, "It might even</p> <p>8 be argued that HeLa cells -- a HeLa genome is</p> <p>9 no longer a human genome."</p> <p>10 Q. Let's pull out Exhibit 2026 and let</p> <p>11 me know when you have that.</p> <p>12 MR. BOSCO: Objection. Outside the</p> <p>13 scope of the original examination. I'm</p> <p>14 going to object to this entire line of</p> <p>15 questioning.</p> <p>16 THE WITNESS: Okay.</p> <p>17 BY MR. ROSATO:</p> <p>18 Q. Do you recall earlier today being</p> <p>19 asked whether you identified the name Henrietta</p> <p>20 Lack [sic]?</p> <p>21 A. Yes.</p> <p>22 Q. Or I think it's Henrietta Lacks.</p>
<p style="text-align: right;">79</p> <p>1 THE WITNESS: Well, specifically,</p> <p>2 it -- the specification describes that the</p> <p>3 term "sample" refers to a biological</p> <p>4 sample or a complex biological sample and</p> <p>5 came from a subject. And that -- in the</p> <p>6 Vargas deposition that was explored and</p> <p>7 she agreed that it's a subject or a</p> <p>8 patient and the terms are used</p> <p>9 interchangeably.</p> <p>10 BY MR. ROSATO:</p> <p>11 Q. Do you disagree with Dr. Vargas?</p> <p>12 A. No. As I state here, I thought we</p> <p>13 were in agreement. I don't see a difference,</p> <p>14 any light between our interpretations.</p> <p>15 Q. Shifting gears. Do you remember</p> <p>16 being asked earlier today about HeLa cells?</p> <p>17 A. Yes.</p> <p>18 Q. I'm going to turn to paragraph 52 of</p> <p>19 your declaration. Let me know when you're</p> <p>20 there.</p> <p>21 A. I'm there.</p> <p>22 Q. I don't recall if this is one of the</p>	<p style="text-align: right;">81</p> <p>1 A. Yep. Yes, I recall that.</p> <p>2 Q. And we just identified Exhibit 2026.</p> <p>3 And you have that; correct?</p> <p>4 A. That's right.</p> <p>5 Q. And do you see in the third column</p> <p>6 from the left where it -- the title of the</p> <p>7 section: HeLa Genome versus Donor's Genome?</p> <p>8 A. That's right. This is what I</p> <p>9 referred to as famously different from the</p> <p>10 original donor. And in fact, this</p> <p>11 correspondence is basically stating that, which</p> <p>12 is from Dr. Henry Heng who is at Wayne State.</p> <p>13 Q. Does Dr. Heng's article here identify</p> <p>14 Henrietta Lacks?</p> <p>15 A. Yes. You see there in -- well, I</p> <p>16 don't know how to -- if you begin at the</p> <p>17 beginning of the correspondence where it says</p> <p>18 "I contend," in the last line of that -- or</p> <p>19 last several lines of that paragraph, it says</p> <p>20 "Henrietta Lacks six decades ago." So HeLa</p> <p>21 cell lines are derived from Henrietta Lack six</p> <p>22 decades ago. So it --</p>

<p style="text-align: right;">82</p> <p>1 Q. Sorry, go ahead.</p> <p>2 A. So it does -- it does mention her</p> <p>3 name. I apologize for not acknowledging the</p> <p>4 donor.</p> <p>5 Q. What's the next sentence in</p> <p>6 Dr. Leng's write-up here?</p> <p>7 A. You mean Dr. Heng?</p> <p>8 Q. Dr. Heng.</p> <p>9 A. Yeah. It says, "The HeLa genome is</p> <p>10 no longer Henrietta Lacks personal genome."</p> <p>11 This transformation, as I mentioned, is</p> <p>12 characteristic of immortalized cell lines.</p> <p>13 They're remarkably different. So that first</p> <p>14 sentence is consistent with my earlier</p> <p>15 testimony.</p> <p>16 Q. In the next sentence, does Dr. Heng</p> <p>17 identify differences in genomes?</p> <p>18 A. Yeah. So now he's getting into</p> <p>19 detail of how they might be different. The two</p> <p>20 share -- so this is the original donor cells</p> <p>21 versus the current cells known as HeLa cells.</p> <p>22 The two share some DNA sequences, but the</p>	<p style="text-align: right;">84</p> <p>1 FURTHER EXAMINATION BY MR. BOSCO:</p> <p>2 Q. Yeah. I just have one question,</p> <p>3 Dr. Cima. Prior to your counsel's line of</p> <p>4 questioning that just concluded, did you</p> <p>5 discuss the content of any testimony with your</p> <p>6 counsel today?</p> <p>7 A. The content of any testimony.</p> <p>8 MR. ROSATO: Objection to form.</p> <p>9 THE WITNESS: Yeah, we discussed</p> <p>10 my -- my declaration.</p> <p>11 BY MR. BOSCO:</p> <p>12 Q. So you discussed the content of your</p> <p>13 declaration while the deposition was going on?</p> <p>14 A. No, no. Just -- I thought you meant</p> <p>15 after -- in the previous break just a minute</p> <p>16 ago, they asked me if I remembered my</p> <p>17 declaration.</p> <p>18 Q. Okay. So you discussed your</p> <p>19 declaration with your counsel during the break?</p> <p>20 A. That's right.</p> <p>21 Q. What did you talk about with respect</p> <p>22 to your declaration?</p>
<p style="text-align: right;">83</p> <p>1 similarity ends there. Period.</p> <p>2 Lacks' genome had the usual number of</p> <p>3 46 normal chromosomes, whereas most HeLa cells</p> <p>4 have 70 to 90 chromosomes, and more than 20</p> <p>5 translocation, some of which are highly</p> <p>6 complex. This is -- this kind of</p> <p>7 transformation is characteristic of</p> <p>8 immortalized cell lines.</p> <p>9 Q. You mentioned Dr. Heng saying the</p> <p>10 HeLa cells have 70 to 90 chromosomes; correct?</p> <p>11 A. That's right.</p> <p>12 Q. Are you aware of any human being that</p> <p>13 has 70 to 90 chromosomes?</p> <p>14 A. No. This kind of thing with extra</p> <p>15 chromosomes is only representative of like</p> <p>16 cancer cells and things like that. So it's</p> <p>17 very different than the -- than the original</p> <p>18 cell.</p> <p>19 MR. ROSATO: I've got no further</p> <p>20 questions.</p> <p>21 THE WITNESS: Stephen?</p> <p>22</p>	<p style="text-align: right;">85</p> <p>1 A. Well, the -- they asked -- asked me</p> <p>2 whether I remembered those -- the paragraph</p> <p>3 before the HeLa cells that I mentioned earlier.</p> <p>4 So if I go to the -- oh, no, it's -- yeah. So</p> <p>5 44 is what I discussed earlier in one of the</p> <p>6 responses to your questions about HeLa cells,</p> <p>7 or concerned HeLa cells.</p> <p>8 And then they just said, well, do you</p> <p>9 remember 43?</p> <p>10 Q. Okay.</p> <p>11 A. Essentially said all that was in</p> <p>12 there other than I didn't mention Dr. Vargas</p> <p>13 basically.</p> <p>14 Q. Did you discuss anything else with</p> <p>15 respect to your declaration during the break?</p> <p>16 A. No. It all concerned HeLa cells,</p> <p>17 so...</p> <p>18 MR. BOSCO: Counsel, we reserve all</p> <p>19 rights with respect to that discussion</p> <p>20 before the testimony.</p> <p>21 I have no further questions.</p> <p>22 MR. ROSATO: Sure. I'll just make</p>

<p style="text-align: right;">86</p> <p>1 sure we're clear on the record. "Before</p> <p>2 the testimony," you're referring to the</p> <p>3 break between -- after cross examination</p> <p>4 and before redirect had started?</p> <p>5 MR. BOSCO: Yes.</p> <p>6 MR. ROSATO: Okay.</p> <p>7 THE WITNESS: Yeah. Just so you</p> <p>8 know, I had no discussion today with</p> <p>9 Mr. Rosato about my testimony prior to</p> <p>10 that, prior to that break that we just</p> <p>11 had.</p> <p>12 MR. BOSCO: Okay. Thank you.</p> <p>13 (Time Noted: 11:12 a.m.)</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p>	<p style="text-align: right;">88</p> <p>1 Case: PreOmics GmbH vs The Brigham and Women's Hospital, Inc.</p> <p>2 Witness Name: Michael J. Cima, Ph.D.</p> <p>3 Deposition Date: 10/03/2025</p> <p>4</p> <p>5</p> <p>6 Please be advised that the transcript in the above</p> <p>7 referenced matter is now complete and ready for signature.</p> <p>8 The deponent may come to this office to sign the transcript,</p> <p>9 a copy may be purchased for the witness to review and sign,</p> <p>10 or the deponent and/or counsel may waive the option of</p> <p>11 signing. Please advise us of the option selected.</p> <p>12 Please forward the errata sheet and the original signed</p> <p>13 signature page to counsel noticing the deposition, noting the</p> <p>14 applicable time period allowed for such by the governing</p> <p>15 Rules of Procedure. If you have any questions, please do</p> <p>16 not hesitate to call our office at (202)-232-0646.</p> <p>17</p> <p>18 Sincerely,</p> <p>19 Digital Evidence Group</p> <p>20 Copyright 2025 Digital Evidence Group</p> <p>21 Copying is forbidden, including electronically, absent</p> <p>22 express written consent.</p>
<p style="text-align: right;">87</p> <p>1 CERTIFICATE</p> <p>2</p> <p>3 I, the undersigned authority, hereby</p> <p>4 certify that the foregoing transcript, page 1</p> <p>5 through 85 is a true and correct transcription</p> <p>6 of the deposition of Michael Cima, Ph.D. taken</p> <p>7 before me at the time and place set forth on</p> <p>8 the title page hereof.</p> <p>9 I further certify that said witness</p> <p>10 was duly sworn by me according to law.</p> <p>11 I further certify that I am not of</p> <p>12 counsel to any of the parties to said cause or</p> <p>13 otherwise interested in the event thereof.</p> <p>14 IN WITNESS WHEREOF I hereunto set my</p> <p>15 hand and affix official seal this 5th day of</p> <p>16 October, 2025.</p> <p>17</p> <p>18 _____</p> <p>19 RANDI GARCIA, COURT REPORTER, RPR</p> <p>20 NOTARY PUBLIC</p> <p>21</p> <p>22</p>	<p style="text-align: right;">89</p> <p>1 Digital Evidence Group, L.L.C.</p> <p>1730 M Street, NW, Suite 812</p> <p>2 Washington, D.C. 20036</p> <p>(202) 232-0646</p> <p>3</p> <p>4 SIGNATURE PAGE</p> <p>5 Case: PreOmics GmbH vs The Brigham and Women's Hospital, Inc.</p> <p>6 Witness Name: Michael J. Cima, Ph.D.</p> <p>7 Deposition Date: 10/03/2025</p> <p>8 I do hereby acknowledge that I have read</p> <p>9 and examined the foregoing pages</p> <p>10 of the transcript of my deposition and that:</p> <p>11 (Check appropriate box):</p> <p>12 () The same is a true, correct and</p> <p>13 complete transcription of the answers given by</p> <p>14 me to the questions therein recorded.</p> <p>15 () Except for the changes noted in the</p> <p>16 attached Errata Sheet, the same is a true,</p> <p>17 correct and complete transcription of the</p> <p>18 answers given by me to the questions therein</p> <p>19 recorded.</p> <p>20 _____</p> <p>DATE WITNESS SIGNATURE</p> <p>21</p> <p>22 _____</p> <p>DATE NOTARY</p>

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1 Errata Sheet

2 NAME OF CASE: PreOmics GmbH vs The Brigham and Women's Hospital, Inc.

3 DATE OF DEPOSITION: 10/03/2025

4 NAME OF WITNESS: Michael J. Cima, Ph.D.

5 Reason Codes: 1. To clarify the record.

6 2. To conform to the facts.

7 3. To correct transcription errors.

8 Page ____ Line ____ Reason ____

9 From ____ to ____

10 Page ____ Line ____ Reason ____

11 From ____ to ____

12 Page ____ Line ____ Reason ____

13 From ____ to ____

14 Page ____ Line ____ Reason ____

15 From ____ to ____

16 Page ____ Line ____ Reason ____

17 From ____ to ____

18 Page ____ Line ____ Reason ____

19 From ____ to ____

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21

22 MICHAEL J. CIMA, PH.D.