

1 UNITED STATES PATENT AND TRADEMARK OFFICE

2 BEFORE THE PATENT TRIAL AND APPEAL BOARD

3 - - -

4 MERCK SHARP & DOHME, LLC

5 Petitioner,

6 - against -

7

8 THE JOHNS HOPKINS UNIVERSITY,

9 Patent Owner.

10

11 CASE IPR2024-00240

12 STENOGRAPHIC DEPOSITION:

13 SEAN D. SHERIDAN, Ph.D.

14 Friday, February 14, 2025

15 9:30 a.m. - 1:30 p.m.

16 - - -

17 HIGHLY CONFIDENTIAL

18 - - -

19 Remote deposition of SEAN D.

20 SHERIDAN, Ph.D., taken via Zoom, commencing at

21 9:30 a.m., before Deborah L. Williams, a

22 Certified Court Reporter.

23 - - -

24

25

THE SULLIVAN GROUP OF COURT REPORTERS

JHU 2411

Merck Sharp v. Johns Hopkins

IPR2024-00240

1 A P P E A R A N C E S :

2 Attorneys for the Petitioner and Witness:

3 PAUL HASTINGS, LLP
4 BY: DANIEL ZEILBERGER, ESQUIRE
5 danielzeilberger@paulhastings.com
6 2050 M Street NW
7 Washington, D.C. 20036
8 (202) 551.1993

9 PAUL HASTINGS, LLP
10 BY: ELIZABETH MOORE, ESQUIRE
11 elizabethmoore@paulhastings.com
12 BY: JINNY LIM, ESQUIRE
13 jinnylim@paulhastings.com
14 MetLife Building
15 200 Park Avenue
16 New York, New York 10166
17 (212) 318.6000

18 Attorneys for the Patent Owner:

19 FISH & RICHARDSON, P.C.
20 BY: MADELYN S. McCORMICK, ESQUIRE
21 mmccormick@fr.com
22 12860 El Camino Real, Suite 400
23 San Diego, California 92130
24 (858) 678.5070

25 ALSO PRESENT:

Karen Moreira, Esquire, Merck

- - -

THE SULLIVAN GROUP OF COURT REPORTERS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

- - -

I N D E X

WITNESS	PAGE NO.
---------	----------

SEAN D. SHERIDAN, Ph.D.	
-------------------------	--

By Ms. McCormick.....	4
-----------------------	---

- - -

E X H I B I T S

NO.	DESCRIPTION	PAGE MARKED
-----	-------------	-------------

(None marked.)

- - -

THE SULLIVAN GROUP OF COURT REPORTERS

1
2 P R O C E E D I N G S
3 9:30 a.m.

4 SEAN D. SHERIDAN, Ph.D.,
5 having been first duly sworn or affirmed,
6 was examined and testified as follows:

7 - - -

8 MS. McCORMICK: Mr. Zeilberger, I
9 see we have Elizabeth Moore and Jinny Lim on
10 the line also.

11 Can you tell us who those folks are?

12 MR. ZEILBERGER: Good morning,
13 Madelyn. My name is Dan Zeilberger. I'm
14 with Paul Hastings. Elizabeth Moore and
15 Jinny Lim are joining me today, also of Paul
16 Hastings. Karen Moreira, in-house counsel
17 at Merck, is also joining us today.

18 MS. McCORMICK: Okay. Great. Thank
19 you.

20 - - -

21 EXAMINATION

22 - - -

23 BY MS. McCORMICK:

24 Q. Good morning, Dr. Sheridan.

25 A. Good morning.

1 Q. My name is Madelyn McCormick from
2 Fish & Richardson, and I represent the patent
3 owner, Johns Hopkins, in this proceeding, and
4 I'm going to be asking you some questions
5 today. Okay?

6 A. Okay.

7 Q. Before we start, I'm going to go
8 over the ground rules for the deposition.

9 So you understand that you are under
10 oath, correct?

11 A. Yes.

12 Q. You understand that means you have
13 to tell the truth, the whole truth and nothing
14 but the truth, right?

15 A. Yes.

16 Q. And you'll do that today, correct?

17 A. Yes.

18 Q. You also understand that the
19 testimony you give is just as important as if
20 you were in a courtroom in front of a judge?

21 A. Yes.

22 Q. So you understand that you must give
23 truthful, complete and accurate testimony
24 today, correct?

25 A. Yes. THE SULLIVAN GROUP OF COURT REPORTERS

1 Q. And you'll do that, right?

2 A. Yes.

3 Q. Dr. Sheridan, if you ever don't

4 understand my question, please let me know.

5 Okay?

6 A. Okay.

7 Q. So if you answer a question, it's

8 fair for me to assume that you understood the

9 question, right?

10 A. Yes.

11 Q. If you ever want to take back,

12 change or modify an answer in any way, let me

13 know. Okay?

14 A. Okay.

15 Q. And I'll let you do that. Okay?

16 A. Sounds good.

17 Q. We'll take a break about every hour,

18 but if you feel like you need a break sooner,

19 just let me know, and we'll do that. Okay?

20 A. Okay.

21 Q. Is there any reason, medical or

22 otherwise, why you cannot give truthful,

23 complete and accurate testimony today?

24 A. No.

25 Q. If there ~~are~~ ~~changes~~ ~~at~~ ~~any~~ ~~point~~ ~~today~~ ~~or~~ ~~any~~ ~~other~~ ~~days~~

1 let me know right away. Okay?

2 A. Okay.

3 Q. I just want to cover some
4 terminology with you hopefully for ease of use
5 today during the deposition.

6 So if I use the term "MSI," will you
7 understand that I'm referring to microsatellite
8 instability?

9 A. Yes.

10 Q. If I use the term "dMMR," will you
11 understand that I'm referring to mismatch
12 repair deficient?

13 A. Yes.

14 Q. And if I use the term "CRC," will
15 you understand that I'm referring colorectal
16 cancer?

17 A. Yes.

18 Q. And can we also agree for the sake
19 of efficiency that if I say "MSI high," it will
20 encompass dMMR too, unless I say otherwise?

21 A. Sure.

22 Q. And if you want to make a
23 distinction between MSI-high versus or dMMR,
24 please feel free to do so, even if my question
25 doesn't. Okay? THE SULLIVAN GROUP OF COURT REPORTERS

1 A. Okay.

2 Q. Where are you right now?

3 A. I am in the Paul Hastings D.C.

4 office in a conference room.

5 Q. And who's with you in the office?

6 A. Daniel Zeilberger.

7 Q. Anyone else?

8 A. No.

9 Q. Do you have -- what do you have in

10 front of you?

11 A. I have in front of me physically on

12 the table a computer with two monitors and a

13 hard copy of my declaration and a hard copy of

14 Mr. Segers' declaration.

15 Q. For the hard copy of your

16 declaration in front of you, is there any

17 markings or tabs on the hard copy?

18 A. No.

19 Q. And do you have the full 120 pages

20 of your declaration in front of you, so

21 including the tabs that were attached?

22 A. Yes, I do.

23 Q. And for Mr. Segers' deposition in

24 front of you, are there any markings or tabs or

25 is it otherwise ~~changed~~ changed?

THE SULLIVAN GROUP OF COURT REPORTERS

1 A. No.

2 Q. And do you have the full copy of Mr.
3 Segers' declaration in front of you, so
4 including the attachments?

5 A. Yes, I do.

6 Q. Is there anything else in front of
7 you besides the hard copies of yours and Mr.
8 Segers' declaration?

9 A. No.

10 Q. So your declaration, Dr. Sheridan,
11 Exhibit 1151, responds to Mr. Segers'
12 declaration regarding commercial success,
13 correct?

14 A. Yes.

15 Q. Your declaration does not address
16 any other issues aside from the commercial
17 performance of Keytruda, correct?

18 MR. ZEILBERGER: Objection. Form.

19 THE WITNESS: I wouldn't
20 characterize it that way.

21 BY MS. McCORMICK:

22 Q. How would you characterize it?

23 A. My analysis addresses the commercial
24 performance of Keytruda, whether there is
25 evidence of a new use that has been demonstrated

1 by Mr. Segers or JHU, and then generally the
2 opinions provided in Mr. Segers' report. So I
3 have rebuttal points to a variety of things
4 that Mr. Segers said.

5 Q. You're not opining on long-felt
6 need, right?

7 A. No, I am not.

8 Q. And you're not opining in your
9 declaration for this case on unexpected
10 results, right?

11 A. That's right.

12 Q. And you're not responding to expert
13 declarations of any other Johns Hopkins experts
14 or declarants, correct?

15 MR. ZEILBERGER: Objection. Form.

16 THE WITNESS: I am responding to Mr.
17 Segers' declaration, and I understand that
18 Mr. Segers has testified that he relied on
19 other experts of JHU. I am not providing
20 any rebuttal to those other experts, but I
21 do respond to certain statements that Mr.
22 Segers made that tie to those other experts
23 or allegedly tie to those other experts.

24 BY MS. McCORMICK:

25 Q. So you're not offering opinion reports

1 this case on any other secondary considerations
2 or objective indicia except for commercial
3 success and nexus as it relates to commercial
4 success, correct?

5 A. That's correct.

6 Q. If you could look at your
7 declaration that you have in front of you,
8 Exhibit 1151, and turn to page 47 of 120.

9 A. Okay.

10 Q. Is that your signature on page 47 of
11 120 of Exhibit 1151?

12 A. Yes, it is.

13 Q. And did you sign your declaration at
14 Exhibit 1151 on January 31, 2025?

15 A. Yes, I did.

16 Q. Is Exhibit 1151 the entirety of your
17 opinions that you're providing in this case?

18 A. Well, what I would say is that this
19 summarizes my opinions, but I expect that
20 you're going to ask me a variety of different
21 questions here, and I'll provide you with
22 responses. So those would also be part of my
23 opinions in this case.

24 Q. Do you have any corrections to make
25 to your declaration with Exhibit 1151?

1 A. There are a number -- or there are
2 some typos in my report that I could correct.
3 Aside from those typos, I would not have any
4 corrections to make.

5 Q. So aside from any typos that might
6 be in your declaration, is your declaration,
7 Exhibit 1151, otherwise accurate and complete?

8 A. To the best of my knowledge, yes.

9 Q. If you could turn to Tab 2 of your
10 declaration, Exhibit 1151, which starts on page
11 64, and let me know when you're there.

12 A. I'm there.

13 Q. What is here in Tab 2, which you
14 also call Schedule 2, of your declaration, Dr.
15 Sheridan?

16 A. This is the document index listing
17 all of the documents, both public and documents
18 that were produced in this case, which, as I
19 state in paragraph 8 to my report, were the
20 documents reviewed and/or relied upon by me and
21 those under my direction. And so everything in
22 this document index should also include what
23 was cited within the report, within the
24 declaration.

25 Q. Did you prepare Schedule 2 of the

1 document index?

2 A. My support staff prepared it.

3 Q. Is there anything you reviewed or
4 relied on for your opinions in this case that
5 is not included in Schedule 2.0?

6 A. Not that I'm aware of.

7 Q. Schedule 2.0, the document index,
8 includes all of the documents that you
9 considered in rendering your opinions for your
10 declaration in this case, right?

11 A. Again, to the best of my knowledge,
12 it does, but it's possible that a document may
13 have been overlooked, but I'm not aware of any.
14 I would say everything that's listed within the
15 declaration itself in either footnotes or in
16 parentheses following various statements and
17 then additional documents may also be included
18 within this document index, and those are
19 intended to capture everything that I've
20 reviewed and relied on.

21 Q. Were there any documents that you
22 asked for but did not receive?

23 A. Not that I'm aware of, no.

24 Q. Were there any documents that you
25 would have wanted to see but didn't have?

1 A. I don't feel that I needed any
2 additional documents, but if there was
3 additional information on various topics, I
4 certainly would have reviewed them.

5 Q. Who provided the documents listed on
6 Schedule 2, the document index?

7 A. That would primarily be counsel, but
8 some of these public documents were documents
9 that I believe I identified or my support staff
10 identified.

11 Q. If you could look under expert
12 reports on Schedule 2, the document index.

13 Do you see that?

14 A. Yes, I do.

15 Q. You did not consider or rely on the
16 declaration of Dr. Goldberg, Hopkins' expert in
17 this case, correct?

18 A. So I reviewed his deposition, and I
19 believe I have the exhibits to his deposition,
20 and I think that might have been one of the
21 exhibits to his deposition. So if it was, then
22 I would say I did rely on it, but if it was
23 not, then I would agree that I did not.

24 Q. Do you recall reviewing Dr.
25 Goldberg's declaration submitted in this case?

1 A. His deposition, yes, but his
2 declaration I certainly did not spend a lot of
3 time on. So I don't recall one way or the
4 other.

5 Q. If you go to page 65 of Schedule 2,
6 the document index, under patents there is
7 listed the '393 patent.

8 Do you see that?

9 A. Yes.

10 Q. Did you review the entirety of the
11 '393 patent for your declaration in this case?

12 A. I reviewed it. I certainly spent
13 more time on some parts than others,
14 particularly I would say the claims as well as
15 the information on the cover page of the
16 patent. But since I'm not providing any
17 technical opinions in this case and I'm relying
18 on others, such as Dr. Neugut and Dr.
19 Oberstein, I did not spend much time on the
20 specification, just sort of quickly skimmed it.

21 Q. Did you come to an independent
22 understanding of what the '393 patent claims?

23 A. No, not an independent
24 understanding.

25 Q. Who did you rely on for your REPORTERS

1 understanding of what the '393 patent claims?

2 A. I relied on Dr. Oberstein, and I
3 also relied on Dr. Neugut.

4 Q. Did you have conversations with Dr.
5 Neugut or Dr. Oberstein for your understanding
6 of the '393 patent claims?

7 A. I had conversations with Dr.
8 Oberstein, but I did not have conversations
9 with Dr. Neugut.

10 Q. So how did you come to your
11 understanding regarding the '393 patent claims
12 from Dr. Neugut?

13 A. I reviewed his declaration.

14 Q. And you never spoke to Dr. Neugut?

15 A. Correct.

16 Q. In your declaration, I think you
17 included that you talked to Dr. Oberstein
18 twice; is that correct?

19 A. That's correct.

20 Q. Did you talk to him any other times?

21 A. No.

22 Q. When did you talk to Dr. Oberstein
23 the first time?

24 A. What did I or when did I?

25 Q. I will ask both, but I do not want to ask
THE SULLIVAN GROUP OF COURT REPORTERS

1 with when did you talk to Dr. Oberstein?

2 A. When? I don't recall the precise
3 date.

4 Q. What did you talk to Dr. Oberstein
5 about the first time?

6 A. The first conversation went over a
7 lot of the science things like what
8 microsatellites are, mismatch repair, PD-1 and
9 PD-L1 and inhibitors thereof. Those are at
10 least some of the topics. I don't recall
11 everything, sitting here at the moment, that we
12 talked about, but a lot of our discussion was
13 focused around the science.

14 Q. For that first discussion, did you
15 talk about anything other than the science, as
16 you just described it?

17 A. I think we talked about -- he talked
18 about treating colorectal cancer. So a lot of
19 science, medicine, those sorts of details, I
20 believe.

21 Q. Did you talk about what the '393
22 patent claims during that first discussion?

23 A. We may have touched on that in the
24 first discussion. I know in the second
25 discussion I believe we talked about that more

1 or that was more of the focus. It might have
2 been discussed in the first discussion as well.

3 Q. Is there anything else in that first
4 discussion you talked with Dr. Oberstein about
5 besides science related to this technology and
6 treating CRC and perhaps discussing the '393
7 patent claims?

8 A. Sitting here at the moment, I don't
9 recall any other topics of our discussion, but
10 it's possible.

11 Q. Let's talk about that second
12 conversation with Dr. Oberstein. Okay?

13 A. Okay.

14 Q. How long after your first
15 conversation was the second one?

16 A. I remember the second conversation
17 was maybe within a week prior to submitting the
18 report, I think, but I don't recall -- like I
19 said, I don't recall exactly when that first
20 conversation was. It could have been several
21 weeks. It could have been a month. I'm not
22 entirely sure.

23 Q. And what did you talk about in that
24 second conversation with Dr. Oberstein?

25 A. One of the things we talked about

1 was what was claimed by the '393 patent, what
2 was known in the prior art, just at a very high
3 level, and then what issues related to nexus, I
4 think.

5 Q. And what do you mean by "issues
6 related to nexus"?

7 A. So, in particular, if you look at my
8 paragraph 21 of my declaration, you'll see the
9 last sentence of that paragraph I say [as
10 read]:

11 "Further, Mr. Segers relies on JHU
12 declarant Dr. Richard Goldberg for his
13 analysis, and, as I understand from Dr.
14 Oberstein, Dr. Goldberg did not provide any
15 purported analysis of nexus for claims other
16 than Claim 1."

17 Q. Anything else related to nexus that
18 you talked to Dr. Oberstein about on that
19 second call?

20 A. Not that I can recall.

21 Q. What else did you talk about with
22 Dr. Oberstein on that second call?

23 A. I think that would cover everything.

24 Q. On the second call with Dr.
25 Oberstein, you talked about the elements of the

1 '393 patent, what was known in the prior art at
2 a high level and issues related to nexus; is
3 that right?

4 A. That's my recollection. It could be
5 that some of that occurred in the first
6 conversation as opposed to the second
7 conversation, but, generally, yes.

8 Q. Is there anything else, besides what
9 you just told me, that you talked to Dr.
10 Oberstein about?

11 A. No, not that I can recall.

12 Q. Dr. Sheridan, you're not a
13 scientist, correct?

14 A. I do not currently work as a
15 scientist.

16 Q. And Dr. Sheridan, you're not an
17 oncologist, correct?

18 A. That's correct.

19 Q. And you're not offering any
20 scientific opinions in this IPR proceeding,
21 correct?

22 A. That's correct.

23 Q. If we could look back at your
24 Schedule 2, the document index under that
25 patent heading. THE SULLIVAN GROUP OF COURT REPORTERS

1 Are you there?

2 A. Yes.

3 Q. You have listed here other patents.

4 How did you find those patents?

5 MR. ZEILBERGER: Objection. Form.

6 THE WITNESS: So these additional
7 patents that are listed -- I'm sorry, give
8 me one moment.

9 MS. McCORMICK: No problem. Take
10 your time.

11 THE WITNESS: The additional patents
12 that are listed under the '393 patent are
13 publicly listed on Merck's website. At
14 least the first four of them are. I'm not
15 sure about the '691. At least the first
16 four of those are publicly available on the
17 Merck website as being associated with
18 Keytruda.

19 BY MS. McCORMICK:

20 Q. I think you're looking at a screen?

21 A. Correct.

22 Q. Can you tell me what you're looking
23 at when you answer these questions?

24 A. Yes, I have an electronic copy of my
25 declaration, and ~~then this is an electronic copy of this~~ REPORTERS

1 computer that's been provided to me, I also
2 have a folder with all of the exhibits that I
3 cite to in my declaration.

4 Q. Is there anything else on that
5 computer you've been provided?

6 A. No.

7 Q. Other than the Zoom, I assume.

8 A. Correct.

9 Q. And is there any markup or other
10 changes to those documents that you have on the
11 computer?

12 A. No, there is not.

13 Q. So the patents that we just
14 discussed you said were listed on Merck's
15 website as associated with Keytruda.

16 Did you look for any other patents
17 associated with Keytruda besides the ones you
18 have listed on your Schedule 2?

19 A. I mean, I looked for any public
20 information I could find from Merck that would
21 identify the patents that are associated -- any
22 patents they might have associated with
23 Keytruda, and those were the ones I was able to
24 find.

25 Q. Did you have any independent reporters

1 understanding of what the patents, other than
2 the '393 patent, claim?

3 A. No, I did not.

4 Q. The patents you have listed on
5 Schedule 2, other than the '393, do they claim
6 methods of treating MSI-high CRC patients with
7 Keytruda?

8 MR. ZEILBERGER: Objection. Form.

9 THE WITNESS: I have not formed any
10 opinions about the scope of what Merck's
11 other patents claim.

12 BY MS. McCORMICK:

13 Q. In your declaration, you provided
14 background on immune checkpoint inhibitors,
15 right?

16 MR. ZEILBERGER: Objection. Form.

17 THE WITNESS: I have a background
18 section in my report with an overview that
19 discusses immune checkpoint inhibitors. Any
20 discussion of it from a scientific point of
21 view, though, I'm relying on Dr. Neugut and
22 my discussions with Dr. Oberstein.

23 BY MS. McCORMICK:

24 Q. You're not offering any medical
25 opinions in this case, right?

1 A. That is correct.

2 Q. And you're not offering any opinions
3 regarding the treatment of cancers, correct?

4 A. That's correct. I just have a
5 general understanding from Dr. Neugut's
6 declaration and my discussions with Dr.
7 Oberstein.

8 Q. In paragraphs 13 through 16 of your
9 declaration, you provide some background
10 information on Keytruda, correct?

11 A. That's correct.

12 Q. And your understanding of Keytruda
13 comes from the documents cited in paragraphs 13
14 through 16, right?

15 A. I would say the documents cited in
16 13 through 16, and then there is a Figure 2 at
17 the end of paragraph 15, and the sources for
18 that figure are listed in Schedule 9 of my
19 declaration.

20 Q. But your understanding of Keytruda
21 comes from the documents cited in paragraphs 13
22 through 16, Figure 2, which points to Schedule
23 9, and the documents cited there; is that
24 right?

25 A. Well, I would say my understanding

1 as described in paragraphs 13 through 16.
2 There may be other statements about Keytruda
3 that I make throughout the report. Those would
4 be cited to -- potentially cited to other
5 sources.

6 As I mentioned, I also had a
7 discussion or two discussions with Dr.
8 Oberstein, and the information that he provided
9 me was consistent with the information that I
10 read in Dr. Neugut's declaration, but I may not
11 have cited my discussion with Dr. Oberstein
12 every time I cited Dr. Neugut's declaration.

13 Q. Your understanding of Keytruda does
14 not come from speaking to anyone at Merck,
15 correct?

16 A. That's correct.

17 Q. Did you speak to anyone at Merck in
18 preparing your opinions for this case?

19 A. Not in preparing my opinions. I
20 believe I've been on calls with Karen Moreira.
21 We didn't have any substantial discussions
22 about Keytruda or my opinions in this case.

23 Q. Other than Ms. Moreira, did you
24 speak with anyone from Merck in preparing your
25 opinions for this case?

1 MR. ZEILBERGER: I would caution the
2 witness not to discuss the contents of any
3 conversations with attorneys, either with
4 Paul Hastings or Merck, but you may identify
5 the names of any individuals, if there are
6 any.

7 THE WITNESS: I don't recall
8 speaking to any other Merck employees.

9 BY MS. MCCORMICK:

10 Q. In paragraph 15 -- you've also
11 referenced it -- you have Figure 2, which is
12 also in Schedule 9, right?

13 A. Schedule 9 provides the support for
14 Figure 2.

15 Q. And can you look at Figure 2 with me
16 and let me know when you're there.

17 A. I'm there.

18 Q. What is Figure 2 showing?

19 A. Figure 2 is summarizing Keytruda FDA
20 approvals by indication starting in 2014 and
21 going through to the present.

22 Q. If we could focus on the approvals
23 in 2017 for MSI-high CRC cancer.

24 Do you see that?

25 A. I do.

1 Q. The approval of Keytruda for use in
2 MSI-high CRC patients in 2017 was achieved
3 based on clinical trials run with Johns
4 Hopkins, correct?

5 MR. ZEILBERGER: Objection. Form.

6 THE WITNESS: So I'm aware of a
7 clinical trial that was co-sponsored by
8 Johns Hopkins and Merck. To the extent
9 you're saying that that's what achieved the
10 approval alone, I don't know. That sounds
11 like a scientific or medical question. But
12 I am aware of that clinical trial.

13 BY MS. McCORMICK:

14 Q. Do you know if any of the other
15 approvals for Keytruda listed here on Figure 2
16 were run in collaboration with institutions
17 outside of Merck?

18 MR. ZEILBERGER: Objection. Form.

19 THE WITNESS: So in paragraph 32, I
20 cite to a Q3 2014 earnings call where the
21 executive vice president of Merck referenced
22 or stated that, quote, Our development
23 program for Keytruda has expanded to include
24 more than two dozen studies around the world
25 involving more than 16,000 patients and

1 addressing more than 30 different tumor
2 types.

3 I can look at that source document,
4 if you'd like, to see if there's reference
5 to other institutions.

6 I do recall reading in Merck public
7 filings statements about studies being
8 conducted with other institutions, but I am
9 not aware sitting here at the moment looking
10 at the approved indications whether any of
11 those arose from studies that involved
12 collaborations with other institutions.

13 BY MS. McCORMICK:

14 Q. In your review of the public filing
15 statements about other studies, do you recall
16 which institutions were referenced?

17 A. No, I do not.

18 Q. In your declaration at paragraphs 17
19 through 19, you provide some backgrounds on
20 MSI-high CRC treatments, right?

21 A. That's correct.

22 Q. You did not include here in
23 paragraphs 17 through 19 any discussions about
24 the type of chemotherapy regimens that might be
25 used for MSI-high CRC patients, right?

1 A. At paragraph 18, I note that, quote,
2 According to the current National Comprehensive
3 Cancer Network guidelines, certain chemotherapy
4 regimens and/or immune checkpoint inhibitors
5 may be used to treat MSI-high/dMMR CRC.

6 So I've referenced other
7 chemotherapy regimens that can be used to treat
8 MSI-high CRC, but I don't describe what all of
9 those options are.

10 Q. Do you know what types of
11 chemotherapy regimens can be used for MSI-high
12 CRC patients?

13 A. I believe the NCCN guidelines that
14 I've cited here, Exhibit 1208 and Exhibit 1209,
15 list at least some of those options.

16 Q. And you don't include those options
17 directly in your declaration, right?

18 MR. ZEILBERGER: Objection. Form.

19 THE WITNESS: I'm not sure I
20 understand what you mean by include them
21 directly. I am referencing them here in
22 paragraph 18.

23 BY MS. McCORMICK:

24 Q. But they're not listed here in
25 paragraph 18, right?

THE SULLIVAN GROUP OF COURT REPORTERS

1 A. To the extent you're saying I am not
2 naming the chemotherapy therapies, like FOLFOX
3 or the other chemotherapy options that can be
4 used to treat MSI-high CRC, I would agree I'm
5 not naming them all here, but I am saying
6 directly to the documents that identify them or
7 at least some of them.

8 Q. You do include a list of the immune
9 checkpoint inhibitors that are recommended for
10 MSI-high cancers, right?

11 A. These are at least those that are
12 listed in the NCCN guidelines. It is not
13 intended to be comprehensive that these are the
14 only options. They may be the only options
15 with respect to immune checkpoint inhibitors.
16 I don't know. I'm just noting that there's
17 public information from the NCCN guidelines
18 that identify these four products as immune
19 checkpoint inhibitors that can be used for the
20 treatment of MSI-high CRC.

21 Q. Are you aware of any other immune
22 checkpoint inhibitors that can used for the
23 treatment of MSI-high cancers?

24 MR. ZEILBERGER: Objection. Form.

25 THE WITNESS: I am not going to answer that.

1 the moment, no.

2 BY MS. McCORMICK:

3 Q. Did you talk to Dr. Oberstein about
4 immune checkpoint inhibitors that can be used
5 for the treatment of MSI-high cancers?

6 A. I would say at a high level we
7 discussed them. I did not ask him to list all
8 of the possible treatment options.

9 Q. In the next two paragraphs of your
10 declaration, paragraphs 20 and 21, you
11 summarize the challenged patent, which is the
12 '393 patent, correct?

13 A. Can you repeat that question?

14 Q. Sure. In paragraphs 20 through 21
15 of your declaration, you summarized the
16 challenged patent, correct?

17 A. I provide a description of my
18 understanding of the challenged patent, yes.

19 Q. And the challenged patent here is
20 the '393 patent, right?

21 A. That's correct.

22 Q. So you understand that the '393
23 patent claims a method of using pembrolizumab
24 to treat MSI-high CRC patients, right?

25 MR. ZIEHLBERGER: OBJECT COURT REPORTERS

1 THE WITNESS: As I state in
2 paragraph 20, I understand that the '393
3 patent claims methods of treating
4 microsatellite instability high or DNA
5 mismatch repair deficient colorectal cancer.

6 BY MS. McCORMICK:

7 Q. Is that your entire understanding of
8 what the '393 patent claims?

9 A. No, I would say that paragraph 20
10 and paragraph 21 provide my understanding of
11 what the '393 patent claims. And then it's
12 possible -- although I don't recall sitting
13 here at the moment -- but it's possible that I
14 may have made other statements in my
15 declaration as to what the '393 -- my
16 understanding of what the '393 patent claims,
17 and I would include those as well.

18 Q. In paragraph 21 you state [as read]:
19 "I understand from Dr. Oberstein
20 that the Keytruda antibody is not claimed by
21 the '393 patent."

22 What do you mean by that?

23 A. What I mean by that is that I
24 understand from Dr. Oberstein that there are
25 not claims that ~~are claiming just one antibody,~~

1 the composition, the drug itself. It's my
2 understanding that there are other patents that
3 predate this patent that Merck has which relate
4 to the actual drug itself. So JHU, in other
5 words, did not invent pembrolizumab, and the
6 invention of pembrolizumab itself is not the
7 subject of the '393 patent.

8 Q. And you understand the '393 patent
9 claim 1 includes a method of treatment using
10 pembrolizumab, correct?

11 A. Yes, I do.

12 Q. And pembrolizumab is the active
13 ingredient in Keytruda? You understand that?

14 A. Yes, I do.

15 Q. You understand that the '393 patent
16 is not owned by Merck, correct?

17 MR. ZEILBERGER: Objection. Calls
18 for a legal conclusion.

19 THE WITNESS: So to the extent that
20 there's a dispute about the ownership of the
21 patent, then obviously that's a legal issue,
22 and I don't have any opinions related to
23 that.

24 BY MS. MCCORMICK:

25 Q. You understand the '393 patent covers

1 not assigned to Merck, correct?

2 MR. ZEILBERGER: Same objection.

3 THE WITNESS: Again, I'm not
4 providing any legal opinions, but on the
5 cover page of the patent, I did not see
6 Merck listed.

7 BY MS. McCORMICK:

8 Q. You understand that the inventors of
9 the method claimed in the '393 patent are not
10 Merck employees, correct?

11 A. That sounds like another legal
12 determination as to who the inventors are.
13 Again, I don't have any legal opinions that I'm
14 providing in this case.

15 Q. Let's talk about the inventors
16 listed on the face of the '393 patent. Does
17 that work?

18 A. Sure. I'm going to pull that up
19 real quick just so I have it for reference.

20 Q. Sure, and that's on Exhibit 1001.

21 A. I'm looking at that.

22 Q. And you see on Exhibit 1001, page 1
23 at the top left "inventors," and there's a list
24 of names there, correct?

25 A. That's correct.

1 Q. And none of the names listed here
2 are people that work for Merck, correct?

3 A. I don't know where these individuals
4 work.

5 Q. Do you know if at the time of
6 invention -- do you know if in 2015, whether
7 any of the inventors on the face of the '393
8 patent were employees of Merck?

9 A. I don't know.

10 Q. Dr. Sheridan, did you review Dr.
11 Goldberg's nexus analysis in his declaration?

12 MR. ZEILBERGER: Objection. Form.

13 THE WITNESS: So I reviewed his
14 declaration, and as part of that I would
15 have reviewed any opinions that he provided.
16 I'm looking here real quick.

17 MS. McCORMICK: Take your time. I
18 think when we were talking earlier, you said
19 you weren't sure if you reviewed Dr.
20 Goldberg's declaration.

21 MR. ZEILBERGER: Objection. Form.

22 MS. McCORMICK: Just let me know
23 when you're ready, Dr. Sheridan.

24 THE WITNESS: That may have been my
25 statement earlier. I'm looking at

1 paragraph 21 of my report, and you can see
2 that the last exhibit cited there is
3 Exhibit 2090, which is the declaration of
4 Dr. Goldberg.

5 So now that I'm looking at it again,
6 I definitely recall reading this, and this
7 is not just something I reviewed in
8 connection with his deposition, but I
9 reviewed it and cited to it in my
10 declaration as well.

11 BY MS. McCORMICK:

12 Q. Did you include in your declaration
13 any analysis of Dr. Goldberg's nexus analysis?

14 A. I provide my understanding of what
15 his nexus analysis relates to, and that is
16 described in the last sentence of paragraph 21.

17 Q. Is your understanding of Dr.
18 Goldberg's nexus analysis included anywhere
19 else in your declaration other than paragraph
20 21?

21 A. I don't believe so.

22 Q. In paragraphs 22 through 24 of your
23 declaration, you provide an overview of the
24 legal standard for commercial success, right?

25 A. I provide a description of my

1 understanding from counsel regarding commercial
2 success in nexus.

3 Q. And do paragraphs 22 through 24
4 reflect your understanding of the legal
5 principles underlying commercial success in
6 nexus?

7 A. Paragraphs 22 through 24 are a
8 summary of my understanding from counsel of the
9 relationship between commercial success and
10 nexus, yes.

11 Q. And you cite some cases in
12 paragraphs 22 through 24, right?

13 A. That's correct.

14 Q. And where did you get those from?

15 A. Those were provided by counsel.

16 Q. Did you do any independent research
17 into cases that might be related to commercial
18 success and nexus?

19 A. No. I'm familiar with a number of
20 these cases that are cited here from other
21 commercial success matters that I've worked on,
22 but, no, I didn't conduct any independent legal
23 research.

24 Q. Is it your understanding that the
25 patented invention ~~THE SULLIVAN GROUP OF COURT REPORTERS~~ ~~must have been developed by the respondents~~

1 for the commercial success of a product?

2 MR. ZEILBERGER: Objection. Form.

3 THE WITNESS: I'm sorry, in what
4 context are you talking about?

5 BY MS. McCORMICK:

6 Q. In the context of commercial success
7 and nexus.

8 A. No, that's not my understanding.

9 Q. In paragraph 24 of your declaration,
10 you discuss blocking patents, correct?

11 A. Yes.

12 Q. What are blocking patents?

13 A. Well, I would refer to the language
14 in paragraph 24 where I say [as read]:

15 "I also understand that the
16 commercial success of a product may not support
17 or indicate nonobviousness of a patent where
18 market entry by others was impeded for some
19 reason, such as the existence of a 'blocking
20 patent,' parens, "i.e., an earlier U.S. patent
21 that is in place before the claimed invention,
22 which prevents practice of the claimed
23 invention."

24 Q. What you just read is your
25 understanding of what a blocking patent is?

1 A. In general, yes, that's correct.

2 Q. And in paragraph 24 related to

3 blocking patents, you cite two cases.

4 Do you see that?

5 A. Yes.

6 Q. Did you read those cases?

7 A. I have, and I reviewed them again,

8 but I have also read them previously.

9 Q. Did you look for any other cases

10 relating to blocking patents?

11 A. I did not conduct any legal research

12 as part of this assignment.

13 Q. Did you ask for anyone to do any

14 legal research related to blocking patents for

15 your opinions in this case?

16 A. No, I did not.

17 Q. In paragraph 24, you state market

18 entry by others.

19 Do you see that?

20 A. I do.

21 Q. What do you mean by others?

22 A. I think I provide maybe a little

23 more detail on this in paragraph 29. So,

24 again, here I'll just read [as read]:

25 "I understand that our earlier reports

1 patent that is in place before a claimed
2 invention, which prevents practice of that
3 later claimed invention, sometimes referred to
4 as a 'blocking patent,' may offer an
5 alternative explanation for why others in the
6 market did not develop a product or technology
7 sooner, even if it were obvious - i.e., because
8 others were economically disincentivized or
9 'blocked' from doing so by potential
10 enforcement of the blocking patent."

11 Those would be others in the
12 marketplace.

13 Q. Others in what marketplace?

14 MR. ZEILBERGER: Objection. Form.

15 THE WITNESS: So other entities that
16 might have developed the invention based on
17 the desire to generate sales and profits.

18 BY MS. McCORMICK:

19 Q. Let's talk about Merck for a moment,
20 Dr. Sheridan. You're familiar with Merck as a
21 pharmaceutical company?

22 A. Yes. Generally speaking, yes.

23 Q. And you were familiar with Merck
24 before you started working on this case,
25 correct?

THE SULLIVAN GROUP OF COURT REPORTERS

1 MR. ZEILBERGER: Objection. Form.
2 THE WITNESS: At a high level.
3 BY MS. McCORMICK:
4 Q. Merck has other pharmaceutical
5 products besides Keytruda, correct?
6 A. Yes.
7 Q. Do you know how many other
8 pharmaceutical products Merck has?
9 MR. ZEILBERGER: Objection. Scope.
10 THE WITNESS: I do not.
11 BY MS. McCORMICK:
12 Q. If you wanted to find out, how would
13 you do that?
14 MR. ZEILBERGER: Objection. Form.
15 THE WITNESS: If I wanted to
16 identify other commercialized products that
17 they have?
18 BY MS. McCORMICK:
19 Q. Yes.
20 A. I would look to their -- first, I
21 would look to their SEC filings and their
22 website.
23 Q. In paragraph 28 of your declaration,
24 you state [as read]:
25 "The ~~TEXAS LAW GROUP OF COURT REPORTERS~~ ~~ALLEGEDLY~~ ~~OF~~ ~~MR. SEGERS~~

1 declaration is therefore entirely unsupported,"
2 correct?

3 A. That's correct.

4 Q. And you made that statement based on
5 Dr. Goldberg's testimony, correct?

6 A. I would say I made that statement
7 based on Mr. Segers' declaration, what was
8 included in his declaration, including what he
9 said that he relied on for his understanding of
10 nexus, and then Dr. Goldberg's testimony about
11 his conversation with Mr. Segers.

12 Q. Anything else?

13 A. I would say I've also performed
14 analyses that rebut some of the quantitative
15 work in Mr. Segers' declaration that he may not
16 have described as being a nexus analysis.

17 For example, Mr. Segers states that
18 there was an inflexion point in Keytruda sales
19 that occurred at the time of the approval for
20 MSI-high CRC. Now, he doesn't use the words
21 that this demonstrates a nexus or causality,
22 but he certainly is suggesting that in his
23 declaration, and I have addressed that and
24 rebutted that as well, but I think again that
25 is another area where this group of counsel regrettably

1 Mr. Segers is not supported.

2 So I would say that there's more
3 that supports my statement that Mr. Segers'
4 declaration -- Mr. Segers' alleged nexus is
5 entirely unsupported.

6 Q. You listened to Mr. Segers'
7 deposition, right, Dr. Sheridan?

8 A. Yes, I did.

9 Q. And you reviewed Mr. Segers'
10 deposition transcript after the deposition,
11 right?

12 A. Yes.

13 Q. And you don't cite to that
14 deposition testimony here in paragraphs 27 and
15 28, right?

16 A. That's correct.

17 Q. You did not include in your
18 declaration that Mr. Segers stated during his
19 deposition that he understood from his
20 conversation with Dr. Goldberg that sales in
21 the MSI-high CRC indication would not be
22 possible without practicing the patent,
23 correct?

24 MR. ZEILBERGER: Objection. Form.

25 THE WITNESS: I have no objection to that.

1 understands from Dr. Goldberg that the use
2 of Keytruda to treat MSI-high or dMMR CRC is
3 not possible without practicing the
4 invention is included in his report, in Mr.
5 Segers' declaration.

6 Is that what you're referring to?
7 Or if there's testimony where he repeated
8 that, then I certainly would have heard that
9 as well.

10 BY MS. McCORMICK:

11 Q. In your declaration, you're relying
12 on Dr. Goldberg's recollection of his
13 conversation with Mr. Segers, correct?

14 A. I am, yes.

15 Q. And in your declaration,
16 particularly here in paragraphs 27 and 28,
17 you're not relying on Mr. Segers' recollection
18 of his conversation with Dr. Goldberg, right?

19 MR. ZEILBERGER: Objection. Form.

20 THE WITNESS: I am not citing to Mr.
21 Segers' deposition testimony. If you're
22 representing to me that Mr. Segers and Dr.
23 Goldberg disagreed about what they
24 discussed, then I'm happy to look at that
25 testimony. THE SULLIVAN GROUP OF COURT REPORTERS

1 BY MS. McCORMICK:

2 Q. Did you hear Mr. Segers during his
3 deposition talk about what he discussed with
4 Dr. Goldberg?

5 A. I don't recall the details of his
6 testimony on that subject, but I certainly --
7 as you mentioned, I attended his deposition and
8 I read the deposition transcript. If you're
9 asking if I recall off the top of my head, I do
10 not, but I'm happy to look at any deposition
11 testimony that you'd like to direct me to.

12 Q. As part of preparing your
13 declaration, did you look at Mr. Segers'
14 deposition testimony regarding his recollection
15 of his conversation with Dr. Goldberg?

16 A. As part of preparing my declaration,
17 I attended his declaration -- I'm sorry, his
18 deposition. I reviewed his deposition
19 transcript. So I would have read and heard his
20 testimony.

21 Q. You would have read and heard his
22 testimony regarding Mr. Segers' recollection of
23 his conversation with Dr. Goldberg, correct?

24 MR. ZEILBERGER: Objection.

25 Foundation. THE SULLIVAN GROUP OF COURT REPORTERS

1 THE WITNESS: I would have read and
2 heard his testimony. So to the extent
3 there's specific testimony you want to
4 direct me to, I'm happy to look at it again.
5 But, again, I don't recall the specifics of
6 everything he said.

7 BY MS. McCORMICK:

8 Q. You don't recall the specifics of
9 what Mr. Segers said regarding Mr. Segers'
10 conversation with Dr. Goldberg, right?

11 A. Correct. I recall -- you stated
12 something, and I was -- saw similar language in
13 his -- in Mr. Segers' declaration.

14 Q. In forming your opinions for this
15 case, you did not quantify the connection
16 between Keytruda and the '393 patent claims,
17 right?

18 MR. ZEILBERGER: Objection. Form.

19 THE WITNESS: I don't understand the
20 question.

21 BY MS. McCORMICK:

22 Q. You did not compare the claims of
23 the '393 patent to the use of Keytruda for
24 MSI-high CRC patients, correct?

25 MR. ZEILBERGER: Objection. Form.

1 THE WITNESS: I'm not sure I
2 understand your question. If it's asking
3 did I do some sort of analysis of patent
4 claims, that would be a legal or a technical
5 issue, and I'm not providing any legal or
6 technical opinions.

7 BY MS. McCORMICK:

8 Q. So you did not compare the claims of
9 the '393 patent to the use of Keytruda for
10 MSI-high CRC patients, right?

11 MR. ZEILBERGER: Objection. Asked
12 and answered.

13 THE WITNESS: I'm not sure I
14 understand what you mean by compare the
15 claims to the treatment, unless you're
16 asking for some sort of technical or legal
17 opinion, and I did not perform any technical
18 or legal analysis.

19 BY MS. McCORMICK:

20 Q. What don't you understand about
21 comparing the claims of the patent to the
22 treatments of MSI-high CRC patients using
23 Keytruda?

24 MR. ZEILBERGER: Objection. Form.

25 THE WITNESS: I don't understand the question.

1 looking at the claims of a patent and then
2 looking at the activities in other cases I
3 worked on, let's say an alleged infringer of
4 the patent, that would be an infringement
5 analysis in those other cases that I've
6 worked on. There may be other purposes for
7 comparing the claims to the activities of a
8 company or an individual. That kind of an
9 analysis I understand to be a technical
10 analysis conducted by the parties' technical
11 experts, so that's what I understand you to
12 be asking me. If that is what you're asking
13 me, then, no, I did not do that.

14 MR. ZEILBERGER: You told Dr.
15 Sheridan you'd take a break every hour, and
16 it's been an hour and ten minutes. I don't
17 know whether we can take a break.

18 MS. McCORMICK: Yes, we definitely
19 can. Apologies for that.

20 Let's go off the record.

21 - - -

22 (Whereupon, a recess was held.)

23 - - -

24 BY MS. McCORMICK:

25 Q. Dr. Sheridan, did you discuss with others

1 substance of your testimony with counsel during
2 the break?

3 A. No, I did not.

4 Q. Dr. Sheridan, you understand that
5 Mr. Segers opines regarding a nexus between the
6 claimed invention and Keytruda sales for the
7 MSI-high CRC indication, right?

8 A. I see statements in his report where
9 he says Keytruda's commercial success in
10 treating MSI-high or dMMR colorectal cancer is
11 due to the claimed invention.

12 There may be specific statements,
13 but I don't recall specific statements. I
14 could search on the electronic version of his
15 report if he specifically says that there was a
16 nexus between sales and the '393 patent.

17 Q. That's fine. So your understanding
18 of Mr. Segers' opinion here is that he opines
19 regarding a nexus between the claimed invention
20 and Keytruda's commercial success.

21 MR. ZEILBERGER: Objection. Form.

22 THE WITNESS: My understanding --
23 and I'm just looking at paragraph 10 of his
24 report. The first half of that sentence
25 says [as read] THE SULLIVAN GROUP OF COURT REPORTERS

1 "Keytruda's commercial success in
2 treating MSI-high or dMMR colorectal cancer
3 is due to the claimed invention."

4 BY MS. McCORMICK:

5 Q. But you, Dr. Sheridan, are only
6 opining here regarding the nexus of the claimed
7 invention as it relates to the commercial
8 performance of Keytruda, right?

9 MR. ZEILBERGER: Objection. Form.

10 THE WITNESS: No, that's not
11 correct.

12 BY MS. McCORMICK:

13 Q. Why not?

14 A. So my opinions relate to the alleged
15 nexus that Mr. Segers opines to, but I
16 initially address Mr. Segers' statements
17 throughout his report related to his
18 interpretation of sales, his quantification of
19 things like profits, his quantification and
20 errors in the quantification of things like
21 market share. So I'm addressing his
22 quantitative analysis as well as his
23 assumptions regarding nexus.

24 Q. You're not opining about nexus as it
25 relates to long-term survival, right? COURT REPORTERS

1 MR. ZEILBERGER: Objection. Form.

2 THE WITNESS: I am not providing any

3 opinions related to long-felt need.

4 BY MS. McCORMICK:

5 Q. And that includes as it relates to a

6 nexus between the claimed invention and any

7 long-felt need, right?

8 A. That's correct.

9 Q. And you're also not providing any

10 opinions related to nexus between the claimed

11 invention and any unexpected results, right?

12 A. That's correct.

13 Q. Let's go back to your declaration,

14 paragraph 30. Let me know when you're there.

15 A. I'm there.

16 Q. And you have here on page 19 of

17 Exhibit 1151 a Figure 3 titled Merck Patents

18 Associated with Keytruda.

19 Do you see that?

20 A. I do, yes.

21 Q. I don't want to know the substance

22 of any conversations you had with counsel, so

23 maybe this is just a yes or no question.

24 Did you have any conversations with

25 anyone about the patent listed here on page 19 of Exhibit 1151?

1 3 in your declaration?

2 A. No.

3 Q. You don't rely on any technical
4 analysis of these patents listed here in Figure
5 3, correct?

6 A. Correct.

7 Q. Has Merck licensed any of the
8 patents listed here in Figure 3?

9 MR. ZEILBERGER: Objection. Scope.

10 THE WITNESS: I am not aware of any
11 licenses that they may or may not have.

12 BY MS. McCORMICK:

13 Q. You're not aware of any licenses
14 Merck may or may not have in relation to the
15 patents listed here in Figure 3?

16 MR. ZEILBERGER: Same objection.

17 THE WITNESS: That's correct.

18 BY MS. McCORMICK:

19 Q. Are you aware of any licenses to any
20 other Merck patents associated with Keytruda?

21 MR. ZEILBERGER: Objection. Scope
22 and form.

23 THE WITNESS: I am not aware of any
24 Merck licenses related to Keytruda or
25 otherwise. THE SULLIVAN GROUP OF COURT REPORTERS

1 BY MS. McCORMICK:

2 Q. If we could turn to page 20 of your
3 declaration. It's under the heading of Mr.
4 Segers Fails to Account for Other Factors that
5 May Have Contributed to Commercial Success.

6 Do you see that?

7 A. I do, yes.

8 Q. You state in paragraph 36 of your
9 declaration [as read]:

10 "Mr. Segers makes no attempt to
11 consider other factors that may have led to the
12 commercial performance of Keytruda used for the
13 treatment of MSI-high/dMMR CRC."

14 Do you see that?

15 A. Yes.

16 Q. Do you agree with that statement?

17 A. I'm referring to the other factors
18 that I am discussing in this section. I do
19 understand that he looked at, I believe,
20 marketing and Keytruda pricing.

21 Q. You offer no opinion in your
22 declaration on Merck's marketing or promotional
23 efforts related to nexus, right?

24 A. Correct.

25 Q. And you also have an opinion on the reports

1 Keytruda's pricing related to nexus in your
2 declaration, right?

3 A. Correct.

4 Q. You did not include a quantification
5 of how Keytruda's other indication approvals
6 contributed to Keytruda's performance in the
7 MSI-high CRC treatment marketplace, right?

8 MR. ZEILBERGER: Objection. Form.

9 THE WITNESS: So I do perform
10 analyses and research, for example,
11 quantifying the total number of approvals
12 that Keytruda has achieved and analyses
13 related to the contributions of certain
14 other indications such as NSCLC to Keytruda
15 overall sales. So there are a variety of
16 different quantitative analyses that relate
17 to this general topic.

18 But I agree, I haven't performed a
19 quantification that says, you know, this
20 portion of MSI-high CRC sales is due to some
21 sort of spillover effects from the broad
22 approvals of Keytruda across a range of
23 indications.

24 BY MS. McCORMICK:

25 Q. Did you analyze what was known by others

1 the art relative to the claims of the '393
2 patent before 2015?

3 A. I did not analyze what was known in
4 the art. I have an understanding of what was
5 known in the art provided to me by Dr.
6 Oberstein and -- at least provided to me by Dr.
7 Oberstein.

8 Q. Where is that understanding
9 reflected in your declaration?

10 A. The one place it's reflected -- and
11 in this case I was citing to the Neugut
12 declaration -- at paragraph 41 where I state
13 [as read]:

14 "I understand that every limitation
15 of every claim had been previously disclosed in
16 the study record published on
17 ClinicalTrials.gov."

18 It's the last sentence of paragraph
19 41. That's at least one place where I refer to
20 what was known. It is something that I
21 discussed with Dr. Oberstein as well, but I
22 would at least direct you to paragraph 41 that
23 I was just reading.

24 Q. Did you discuss the MSI-high study
25 record with Dr. Oberstein?

1 A. Yes, at a high level.

2 Q. And what did he tell you about the
3 MSI-high study record?

4 A. He said that the study record -- his
5 opinions were consistent with what Dr. Neugut
6 said, which is that the MSI-high study record
7 published on ClinicalTrials.gov described the
8 use of Keytruda to treat MSI-high colorectal
9 cancer.

10 Q. Other than referring -- other than
11 Dr. Neugut's declaration and a conversation
12 with Dr. Oberstein, does your understanding of
13 what was known in the prior art before 2015 in
14 relation to the claims of the '393 patent come
15 from anywhere else?

16 A. Yes, it also comes from Dr.
17 Oberstein's declaration.

18 Q. Does your understanding come from
19 anything else besides Dr. Neugut's declaration,
20 Dr. Oberstein's declaration and a conversation
21 with Dr. Oberstein?

22 A. No.

23 Q. Did you do your own independent
24 analysis between the MSI-high study record and
25 the '393 patent?THE SULLIVAN GROUP OF COURT REPORTERS

1 A. No, I did not.

2 Q. And did you look at anything else
3 from before 2015 in the prior art related to
4 the '393 patent claims besides the MSI-high
5 study record?

6 MR. ZEILBERGER: Objection. Form.

7 THE WITNESS: I looked at a lot of
8 documents that were -- you know, some of
9 those are predating or around the time of
10 2014, 2013.

11 So I guess I have to understand your
12 question a little better to understand what
13 you're asking.

14 BY MS. McCORMICK:

15 Q. Are there any other documents
16 besides the MSI-high study record that you're
17 relying on for your understanding that every
18 limitation of every claim of the '393 patent
19 had previously been disclosed?

20 MR. ZEILBERGER: Objection. Form.

21 THE WITNESS: So just to clarify, I
22 am not relying on the MSI-high study record.
23 I am relying on the opinions of Dr. Neugut
24 and Dr. Oberstein for my understanding that
25 -- I just want to go back to the language --

1 my understanding that every limitation of
2 every claim had been previously disclosed in
3 the study record published on
4 ClinicalTrials.gov on June 10, 2013 -- I'm
5 reading from paragraph 41 -- or in the
6 MSI-high study record in combination with
7 additional prior art references.

8 BY MS. McCORMICK:

9 Q. Did you review the MSI-high study
10 record?

11 A. I did look at the MSI-high study
12 record, but I was not doing a comparison of
13 what was disclosed there to the claims. I'm
14 relying on the opinions of Dr. Neugut and Dr.
15 Oberstein for that understanding.

16 Q. And in the last phrase of paragraph
17 41, you refer to the MSI-high study record in
18 combination with additional prior art
19 references.

20 Do you know what those additional
21 prior art references are?

22 A. I'm looking right now at Dr.
23 Oberstein's declaration, and I see a number of
24 them. So I'm aware of a number of different
25 ones, prior art references, but I don't know the

1 extent of my knowledge. I see them being
2 discussed in the Oberstein declaration.

3 Q. But you don't have an independent
4 understanding of those additional prior art
5 references, other than from Dr. Neugut's
6 declaration, Dr. Oberstein's declaration and
7 your conversation with Dr. Oberstein?

8 A. That's correct.

9 Q. Let's talk about Keytruda's
10 commercial performance. One of your opinions
11 for this IPR is Mr. Segers' underlying
12 conclusions regarding commercial performance of
13 Keytruda's use as a treatment for MSI-high
14 colorectal cancer are based on an incomplete
15 and flawed analysis, right?

16 A. Can you direct me to the paragraph
17 that you're reading from?

18 Q. Sure, paragraph 43 of your
19 declaration on page 25.

20 A. Yes, I agree that's included in
21 paragraph 43.

22 Q. You're not opining here on whether
23 Keytruda's use as a treatment for MSI-high
24 colorectal is a commercial success or not,
25 right?

THE SULLIVAN GROUP OF COURT REPORTERS

1 A. It is my opinion that Mr. Segers has
2 not demonstrated that it is. So I guess that
3 would be slightly different than what you said.
4 But it is related to the alleged commercial
5 success.

6 Q. Your opinion here is criticizing Mr.
7 Segers' work regarding commercial success,
8 right?

9 MR. ZEILBERGER: Objection. Form.

10 THE WITNESS: I am rebutting Mr.
11 Segers' report, and that's how I would
12 describe my declaration.

13 BY MS. McCORMICK:

14 Q. If we could look at paragraph 72 of
15 your declaration on page 47, and let me know
16 when you're there.

17 A. I'm there.

18 Q. In the last sentence in paragraph 72
19 you state [as read]:

20 "Mr. Segers' declaration presents a
21 flawed and misleading analysis which does not
22 establish any secondary considerations of the
23 '393 patent claims."

24 Do you see that?

25 A. Yes. THE SULLIVAN GROUP OF COURT REPORTERS

1 Q. But, again, Mr. Segers' declaration
2 was focussed on commercial success, right?

3 A. That's correct.

4 Q. And your opinions are focussed on
5 commercial success and not any secondary
6 considerations, right?

7 MR. ZEILBERGER: Objection. Form.

8 THE WITNESS: Mr. Segers' report I
9 understand to be focussed on commercial
10 success as a secondary consideration of
11 nonobviousness, and that is what my report
12 is focussed on as well.

13 BY MS. McCORMICK:

14 Q. Your report or declaration is not
15 focussed on any other secondary considerations
16 besides commercial success, right?

17 A. That's correct.

18 Q. If we can go back to paragraph 49,
19 page 28, of your declaration and under the
20 heading Keytruda CRC Sales Revenue. Let me
21 know when you're there.

22 A. I'm there.

23 Q. So you reviewed Keytruda's CRC sales
24 revenue, right?

25 A. I reviewed Keytruda's CRC sales revenue.

1 was produced in this case. I also reviewed the
2 IQVIA data that was produced in this case,
3 which was [REDACTED]. And then in
4 order to estimate the percentage of sales of
5 Keytruda that is attributable to MSI-high CRC,
6 I have used the same methodology. I have
7 accepted Mr. Segers' methodology in terms of
8 providing that estimation of MSI-high CRC
9 sales.

10 Q. And you looked at Keytruda sales
11 overall, right?

12 MR. ZEILBERGER: Objection. Form.

13 MS. McCORMICK: And I apologize, I
14 mean not just focused on the CRC or MSI-high
15 sales.

16 MR. ZEILBERGER: Objection. Form.

17 THE WITNESS: The data that Merck
18 produced in this case with respect to sales
19 was total U.S. Keytruda sales. So, yes, I
20 reviewed that data.

21 BY MS. McCORMICK:

22 Q. So you're aware that in 2023,
23 Keytruda sales reached \$25 billion?

24 MR. ZEILBERGER: Objection. Form.

25 THE WITNESS: I am aware of that. I am not a reporter.

1 global sales?

2 BY MS. McCORMICK:

3 Q. Sure.

4 A. So the data that I have which you
5 can see in Schedule 4.0 is summarized for total
6 U.S. Keytruda net sales is [REDACTED] --
7 approximately [REDACTED]. I do not have data
8 on the global sales of Keytruda.

9 Q. Fair enough. Are you aware that in
10 2023, sales of Keytruda made Keytruda the
11 world's best selling drug?

12 MR. ZEILBERGER: Objection. Form.

13 THE WITNESS: In terms of Keytruda
14 being the largest revenue-generating drug, I
15 believe I have read that in 2023.

16 BY MS. McCORMICK:

17 Q. Do you have Schedule 4 in front of
18 you?

19 A. Yes, I do.

20 Q. Just at a high level, what is
21 Schedule 4?

22 A. Schedule 4 is showing the total U.S.
23 Keytruda net sales by year, with 2014 and 2024
24 being partial years. And it also shows the
25 estimated -- I don't know if it said it, but

1 that's U.S. Keytruda net sales. And it also
2 shows the estimated U.S. Keytruda CRC net sales
3 using that methodology that I just mentioned
4 which I adopted from Mr. Segers' report. And
5 then I have quantified the portion of total
6 Keytruda sales, total U.S. Keytruda sales which
7 CRC accounted for.

8 Q. And where do the numbers reflected
9 in Schedule 4 come from?

10 A. The total U.S. Keytruda net sales,
11 you can look at the notes. It says Note 1.
12 Those are coming from Exhibit 2187, which is
13 the Merck sales data that I referenced. And
14 then the estimate of U.S. Keytruda CRC net
15 sales is calculated on Schedule 4.1.

16 Q. If you could turn to Page 2 of
17 Schedule 4, but page 93 of 120, and you have
18 two columns here.

19 Do you see that?

20 A. I do, yes.

21 Q. And the first column is totaling
22 dollar sales in millions from January 2017 to
23 January 2024, and the second column is
24 totalling the same from September 2014 to
25 January 2024; is that right?

1 A. That's correct.

2 Q. And why did you include those two
3 different starting points of September 2014
4 versus January 2017?

5 A. I am showing on the left-hand side
6 sales Keytruda total sales -- total U.S.
7 Keytruda sales and total U.S. CRC sales
8 beginning in the year that Keytruda received
9 its approval for MSI-high CRC. I've
10 conservatively included sales from the
11 beginning of that year, so prior to the
12 approval.

13 And then in the second column, I am
14 showing the same calculation beginning at the
15 launch of Keytruda in September of 2014. So,
16 in other words, we can look at the portion of
17 U.S. sales that the estimated MSI-high CRC
18 accounted for either from the start of 2017 or
19 from the launch of the drug.

20 Q. And in your Schedule 4, page 93,
21 there's no difference between the estimated
22 total U.S. Keytruda CRC net sales between
23 either launch of the product or the year that
24 MSI-high was approved, right?

25 A. That's correct, because we only have

1 IQVIA data beginning in January 2017. So if we
2 had IQVIA data, we could see what sales may
3 have occurred prior to January 2017. But
4 that's a function of the IQVIA data that is
5 available in this case.

6 Q. Did you try to get IQVIA data from
7 before 2017?

8 A. I used the data that was available,
9 which is the same data that Mr. Segers had
10 access to. I did not request additional IQVIA
11 data.

12 Q. So from 2017 through January 2,
13 2024, the estimated total U.S. Keytruda CRC net
14 sales is [REDACTED], right?

15 A. That's correct.

16 Q. And you're not opining that [REDACTED]
17 [REDACTED] in sales is not a commercial success,
18 right?

19 A. I am not opining that it is not a
20 commercial success. What I am saying is that
21 Mr. Segers has not demonstrated that these
22 sales are a commercial success, and he has not
23 addressed compounding factors that may have
24 contributed to the sales, and he has also not
25 addressed economic disjunctures of which Mr. Segers

1 relevant to what we attribute these sales to.

2 Q. If we can go back to page 92 of
3 Schedule 4 and just look at the year 2018. Can
4 you let me know when you're there?

5 A. I'm there.

6 Q. So in the year 2018, the total
7 estimated U.S. Keytruda CRC net sales was
8 [REDACTED], right?

9 MR. ZEILBERGER: Objection. Form.

10 THE WITNESS: In Schedule 4.0 under
11 2018, the estimated total U.S. Keytruda CRC
12 net sales is [REDACTED].

13 BY MS. McCORMICK:

14 Q. Looking at patients instead of
15 sales, you understand that Mr. Segers opines
16 that Keytruda's number of MSI-high CRC patients
17 undergoing treatment is indicative of
18 commercial success here, right?

19 A. Yes. I quote Mr. Segers at
20 paragraph 44 of my report where he states [as
21 read]:

22 "Keytruda's use in treating MSI-high
23 or dMMR colorectal cancer is commercially
24 successful because: its sales and profits have
25 been substantial and growing since launch."

1 number of patients undergoing treatment has
2 been substantial and growing since launch, and
3 its share of sales within its relevant market
4 has been growing since launch."

5 Q. And you provide your own analysis of
6 Keytruda patients including MSI-high CRC
7 patients, right?

8 A. I do. I've adopted the assumptions
9 that Mr. Segers used to calculate MSI-high CRC
10 patients in performing that analysis.

11 Q. And you prepared at Tab 3 of your
12 declaration a Schedule 3 reporting Keytruda CRC
13 patients, right?

14 A. Schedule 3 of my declaration shows
15 the total new U.S. Keytruda CRC patients share
16 of total new U.S. Keytruda patients from
17 January 2017 through December of 2023, and for
18 this I have adopted Mr. Segers' assumptions
19 about MSI-high CRC patients.

20 Q. And by that, do you mean that all
21 patients receiving Keytruda that have CRC are
22 MSI-high CRC patients?

23 A. I guess I should clarify. That is
24 why I say Keytruda CRC patients in this
25 schedule as well as in the caption of my report

1 paragraph 45 through paragraph 48. So what
2 we're looking at here are actually CRC
3 patients. We don't know for a fact that these
4 are MSI-high CRC patients or that they're all
5 MSI-high CRC patients, but I'm concluding in
6 paragraph 48 that these analyses demonstrate
7 that MSI-high CRC patients -- so, again, for
8 paragraph 48, I'm accepting even under the
9 assumption that these are all MSI-high CRC
10 patients, these analyses demonstrate that
11 MSI-high CRC patients [REDACTED]

12

13

14

15

[REDACTED].

16

17

18

Q. What did you do to investigate
whether the Keytruda CRC patients are MSI-high
patients -- MSI-high CRC patients?

19

20

21

A. That's sort of a scientific and
medical question, so I wouldn't perform any
independent analysis on that.

22

23

24

25

Q. Did you talk to Dr. Oberstein or see
in Dr. Oberstein's declaration or Dr. Neugut's
declaration anything about whether Keytruda CRC
patients are also MSI-high CRC patients?

1 A. I don't recall what's in the
2 declaration about that. I'd have to look at it
3 again. I believe we briefly discussed it in
4 one of the two conversations that I had with
5 Dr. Oberstein.

6 Q. And what did he tell you about
7 Keytruda CRC patients being or not being
8 MSI-high CRC patients?

9 A. It's my understanding that the
10 approved indication is MSI-high CRC patients,
11 so the majority of these patients would be
12 MSI-high.

13 I also understand that there is
14 off-label use, and there are other factors that
15 one would need to investigate in order to
16 determine if these were all MSI-high or what
17 portion of the total would be MSI-high.

18 But for the purposes of my analysis,
19 it wasn't necessary for me to dig into that any
20 further.

21 Q. So looking back at Schedule 3, page
22 79 of your declaration, you report on the total
23 new U.S. Keytruda CRC patients, correct?

24 A. That's correct.

25 Q. And ~~you surveyed every year the total number~~

1 new U.S. Keytruda CRC patients [REDACTED],
2 correct?

3 A. That's correct.

4 Q. Is it your opinion that MSI-high CRC
5 patients must account for a substantial portion
6 of Keytruda patients in order to be considered
7 a commercial success?

8 A. No.

9 Q. If we could look at Figure 6 of your
10 declaration, which is under paragraph 53 on
11 page 31, and you can let me know when you're
12 there.

13 A. Okay.

14 Q. Q4 2016 inflection point and a Q2
15 2017 inflection point, right?

16 MR. ZEILBERGER: Objection. Form.

17 THE WITNESS: I am using Mr. Segers'
18 analysis to compare the alleged Q2 2017
19 inflection points, and I used that same
20 methodology to demonstrate that the
21 inflection point, to the extent there's an
22 inflection point, occurred in Q4 2016.

23 BY MS. McCORMICK:

24 Q. And I want to ask you about the
25 column -- third column after growth rate column

1 starting Q4 2016 - Q3 2017 and then below that
2 two rows down at Q2 2017 to Q1 2018.

3 Do you see that?

4 A. I do, yes.

5 Q. I think there's an overlap between
6 those two sections that you're looking at. So
7 Q2 2017 would be included in the section above
8 the Q4 2016 to Q3 2017, right?

9 A. Q2 2017 is one of the quarters that
10 is in that range of that four-quarter period,
11 Q4 2016 through Q2 2017, yes.

12 Q. And Q2 2017 is when Keytruda was
13 approved for MSI-high CRC patients, right?

14 A. Amongst multiple other approvals,
15 yes, that was one of -- I'd have to go back and
16 look, but I think there was at least three or
17 four different approvals in that quarter.

18 Q. If we could turn to paragraph 56 of
19 your declaration on page 32. Here you're
20 referring to an IQVIA 2023 white paper.

21 Do you see that?

22 A. I do.

23 Q. How did you find this white paper?

24 A. As part of independent research.

25 Q. Did you look for anything that the REPORTERS

1 contradicted the opinions reflected in IQVIA
2 2023 white paper?

3 A. I did, yes.

4 Q. And did you find anything?

5 A. So my search was intended to see, is
6 there any support first for Mr. Segers' claim
7 that there was an inflection point in Q2 2017
8 because, mathematically, it's not supported if
9 you look at that range of the time period more
10 broadly than what he looked at?

11 And then, additionally, I believe he
12 had testimony stating that this inflection
13 point that he alleged still would have happened
14 even without MSI-high CRC included. And I can
15 find -- so I don't see a cite to Mr. Segers'
16 testimony here, but I believe that he testified
17 that this alleged inflection point would have
18 occurred even if you removed Keytruda MSI-high
19 CRC sales from the total.

20 So this all raises -- raised
21 questions for me about, one, is there an
22 inflection point as he's alleging? And, two,
23 if there is, what is it attributable to?

24 So I searched for any indication
25 that any third party has published by court reporters

1 | itself has publicly stated that MSI-high CRC
2 | led to some sort of inflection point or
3 | increase in the sales growth of Keytruda
4 | overall. I could not find anything to support
5 | that.

6 As part of that, I also looked into
7 what sales have been driven by according to
8 Merck and other third parties, such as, for
9 example, IQVIA.

10 And I guess I'd say, even in
11 addition to that, I was looking at Mr. Segers'
12 graph at Appendix 4 to his report. I noticed
13 that if we look at the point in time where the
14 slope of the line overall, sort of the best fit
15 line, where that appears to change, it's not Q2
16 2017; it is Q4 2016.

17 So taking all of this together, that
18 was sort of directing my search for additional
19 information that might provide some insight
20 into what may have led to this Q4 2016
21 inflection point.

22 Q. Focussing on the IQVIA 2023 white
23 paper that you cite to and quote in paragraph
24 56 of your declaration, this paper is comparing
25 Keytruda to Opdivo, correct?

1 A. That is one of the things that this
2 paper does, but it does more than that. But
3 that is, I believe -- the title of the paper as
4 stated in paragraph 56 is "Success Multiplied:
5 Launch Excellence for Multi-Indication Assets."

6 So it's talking generally about
7 launches for multi-indication assets, and
8 examples that it refers to include Keytruda and
9 Opdivo.

10 Q. And what is Opdivo?

11 A. Opdivo is another PD-1 inhibitor. I
12 believe I describe in this report -- my
13 declaration, I mean. If you look at Figure 1
14 in my declaration, Opdivo is a PD-1 inhibitor,
15 and then as I state in paragraphs 18 and 19, it
16 is recommended -- Opdivo is recommended by the
17 NCCN guidelines for the treatment of MSI-high
18 CRC. It's also FDA approved for that
19 indication. So there's -- and I have
20 additional statements describing it. It's a
21 BMS company, which is the name of the company
22 that markets Opdivo.

23 Q. Is Opdivo a competitor to Keytruda
24 in the MSI-high CRC marketplace?

25 A. I believe it is.

1 Q. And your understanding is that
2 Opdivo is another immune checkpoint inhibitor,
3 right?

4 A. Yes, and specifically a PD-1
5 inhibitor.

6 Q. The quote you have in your
7 declaration is comparing non-small cell lung
8 cancer, NSCLC, indications between Keytruda and
9 Opdivo, correct?

10 MR. ZEILBERGER: Objection. Form.

11 THE WITNESS: So I'm quoting three
12 paragraphs from this white paper. I don't
13 think that everything stated here is a
14 comparison of Keytruda to Opdivo as
15 treatment for NSCLC.

16 BY MS. McCORMICK:

17 Q. The IQVIA article, more broadly
18 speaking, or what you have here in your
19 declaration is not talking about MSI-high CRC
20 indications, right?

21 A. This article is talking about a
22 multi-indication launch. It talks about the
23 significant indications for Keytruda sales. I
24 have a figure on page 32 -- page 34, using the
25 page numbering that you've been referring to.

1 so Figure 7, which also comes from this
2 article, which identifies the main contributors
3 to Keytruda sales, and this article is talking
4 about a successful multi-indication launch. So
5 it's not just focussed on NSCLC.

6 But I would agree when focussed on
7 the key or the main indications contributing to
8 Keytruda sales, nowhere in this white paper do
9 they mention MSI-high CRC.

10 Q. Do you agree with the statement the
11 in the IQVIA white paper that there are
12 significant differences in products' relative
13 value in different indications?

14 A. Yes. There may be for
15 multi-indication products. That makes sense.
16 Multi-indication results may not achieve an
17 approved indication in some areas, and they may
18 be very successful in other areas, for example.

19 Q. Dr. Sheridan, you're an economist,
20 correct?

21 MR. ZEILBERGER: Objection. Form.

22 THE WITNESS: Yes.

23 BY MS. McCORMICK:

24 Q. And you work as an economic expert?

25 A. Yes, ~~THE SULLIVAN GROUP OF COURT REPORTERS~~

1 provide consulting relating to things like
2 licensing and IP strategy, those sorts of
3 engagements as well. But I do perform economic
4 analyses and provide those kinds of opinions
5 both inside and outside the context of
6 litigation.

7 Q. And in your work as an economic
8 expert, as you just described it, you have to
9 rely on assumptions sometimes, correct?

10 A. That's correct.

11 Q. When or why might you rely on an
12 assumption as part of your work as an economic
13 expert?

14 MR. ZEILBERGER: Objection. Form.

15 THE WITNESS: It would really
16 depend.

17 BY MS. McCORMICK:

18 Q. What would it depend on?

19 MR. ZEILBERGER: Objection. Form.

20 THE WITNESS: It would depend on the
21 facts of any given case as to when or why I
22 may or may not rely on something as an
23 assumption.

24 BY MS. McCORMICK:

25 Q. Would you rely on an assumption when

1 you don't have actual data?

2 MR. ZEILBERGER: Objection. Form.

3 THE WITNESS: Again, it would
4 depend.

5 BY MS. McCORMICK:

6 Q. It would depend on what?

7 MR. ZEILBERGER: Same objection.

8 THE WITNESS: On facts of the case
9 and what the assumption was.

10 BY MS. McCORMICK:

11 Q. What facts would cause you to rely
12 on an assumption?

13 MR. ZEILBERGER: Same objection.

14 THE WITNESS: I mean, that's a
15 hypothetical that's very broad. I don't
16 have examples sitting here for you right
17 now, but I do think anyone performing a
18 financial or economic analysis needs to be
19 thoughtful about the assumptions that they
20 do or do not make. And there are instances
21 where some assumptions are supported and
22 appropriate, and then there are other
23 instances where an assumption may not be
24 supported or appropriate.

25 BY MS. McCORMICK: THE SULLIVAN GROUP OF COURT REPORTERS

1 Q. Is it your opinion that
2 chemotherapies are competitor products to
3 Keytruda for its use in MSI-high CRC patients?

4 A. It's my understanding that
5 chemotherapy is used to treat MSI-high CRC
6 patients and, therefore, they are products that
7 are sold in the marketplace for that purpose,
8 as is Keytruda.

9 Q. So would you consider chemotherapies
10 to compete in the marketplace for MSI-high CRC
11 patients compared to Keytruda?

12 A. So they may in instances. My
13 analysis of the marketplace for MSI-high CRC
14 treatments is addressing what Mr. Segers has
15 talked about, which is the market for drugs
16 used to treat MSI-high CRC. We know that
17 chemotherapies are included in that
18 marketplace. We also know that Mr. Segers did
19 not have data on what the majority of MSI-high
20 CRC patients are receiving. He did acknowledge
21 that they may not be on immune checkpoint
22 inhibitors, but they may be on other
23 immunotherapies. So based on Mr. Segers'
24 description of the marketplace, these are
25 products that should have been included.

Q. Did you quantify the market shares of chemotherapies compared to Keytruda for MSI-high CRC patients?

A. I did not have data on the market share of chemotherapies in the MSI-high CRC indication.

Q. So if you did not have the data on the market share of chemotherapies in that MSI-high CRC indication, it's fair to say that you did not quantify the market share of chemotherapy compared to Keytruda for MSI-high CRC patients, right?

A. I would agree.

What I would say is, I've quantified the portion of patients which are on something other than Keytruda, which would include chemotherapies. If I had had the data, I would have broken out specifically the shares of chemotherapy.

But, ultimately, we can still look at how many patients are receiving something other than Keytruda, and I quantified that in schedule 7.0 of my declaration, and I believe I describe it at the last paragraph in paragraph 68. Well, I describe it in paragraph 68 and I

1 declaration.

2 MS. McCORMICK: Let's take a
3 ten-minute break here. Let's go off the
4 record.

5 - - -

6 (Whereupon, a recess was held.)

7 - - -

8 BY MS. McCORMICK:

9 Q. Dr. Sheridan, did you discuss the
10 substance of your testimony with counsel during
11 your lunch break?

12 A. No, I did not.

13 Q. Dr. Sheridan, in your work as an
14 economic expert, you rely on statements made
15 during company earnings calls, right?

16 A. I have.

17 Q. You did for this case, correct?

18 A. I reviewed the statements made in
19 the company earnings calls cited by Mr. Segers,
20 and I summarized that in paragraphs 61 through
21 62 of my report.

22 Q. Can I have you look at paragraph 32
23 of your declaration? That's page 20 of 120.
24 Let me know when you're there.

25 A. Yes. THE SULLIVAN GROUP OF COURT REPORTERS

1 Q. And do you see in paragraph 32 of
2 your declaration that you're relying on
3 statements made during Merck's Q3 2014 earnings
4 call?

5 | A. That's correct.

6 Q. And do you find the statements made
7 during company earnings calls are reliable?

8 MR. ZEILBERGER: Objection. Form.

9 THE WITNESS: So companies have an
10 obligation to be honest with their investors
11 in their SEC filings and in their earnings
12 calls. That doesn't mean that everything
13 they say is always a hundred percent
14 accurate, but I do think it's a source of
15 information that we can look to for
16 understanding information about the company
17 and its practices. So, generally, yes, I
18 would say reliable.

19 BY MS. McCORMICK:

20 Q. And you understand that companies
21 can suffer penalties for false statements made
22 to the SEC, right?

23 | A. I do, yes.

24 Q. In paragraph 62 of your declaration,
25 you review or rebut, Sullivan Group for Court records

1 Mr. Segers' analysis of Opdivo and Yervoy
2 sales, right?

3 A. I would not limit it just to
4 paragraph 62, but in paragraph 62, I am
5 discussing some of the flaws in his market
6 share analysis.

7 Q. And one of the flaws you identify is
8 that Mr. Segers relied on 5 percent of Opdivo
9 and Yervoy sales attributed to MSI-high CRC
10 patients, right?

11 A. So, to be clear, Merck did not
12 attribute 5 percent of sales -- BMS did not
13 attribute 5 percent of sales to MSI-high CRC.
14 What I am critiquing in paragraph 62 are Mr.
15 Segers' assumptions.

16 The first assumption is that the
17 percentage -- so, first, he's assuming that
18 MSI-high CRC is 5 percent because the other
19 indications category, according to the Q2 2018
20 earnings call, is MSI-high CRC, but he then
21 goes on to assume that that percentage remained
22 the same over the subsequent five-year period
23 through 2023.

24 So I'm critiquing that, even though
25 we know that the other indications category of which BMS has

1 he's relying on for that 5 percent number, that
2 changed in the next quarter and in, let's see,
3 the Q3 2018 earnings call and the Q1 2019
4 earnings call.

5 So my critique in this paragraph is
6 his assumption. It's not relying on
7 information from an earnings call transcript.

8 Q. Okay. Thank you. So focussing on
9 just the Q2 2018 other indications in Figure 8
10 of your declaration, do you see that?

11 A. I do, yes.

12 Q. Is it your opinion that this 5
13 percent equated to MSI-high patients receiving
14 Opdivo and Yervoy is an overestimation --

15 THE COURT REPORTER: Can you please
16 repeat that?

17 MS. McCORMICK: Sure.

18 BY MS. McCORMICK:

19 Q. Dr. Sheridan, can we focus on Q2
20 2018. Do you see that in Figure 8?

21 A. Yes. I see that column.

22 Q. And what Mr. Segers did, in your
23 understanding, is equate the 5 percent in the
24 other indications category to 5 percent
25 MSI-high CRC patients receiving Opdivo and

1 Yervoy, right?

2 A. Well, what he did I quote him in
3 paragraph 61. I say [as read]:

4 "Mr. Segers incorrectly claims that,
5 quote, according to Bristol-Meyers Squibb,
6 MSI-high or dMMR CRC indications accounted for
7 no more than -- and likely less than -- 5
8 percent of Opdivo and Yervoy sales in 2018 and
9 2019."

10 So that's what I would say what he
11 has assumed based on this 5 percent other
12 indications category.

13 Q. Is the 5 percent in the other
14 indications category an overestimation of the
15 number of MSI-high CRC patients receiving
16 Opdivo and Yervoy in Q2 for 2018?

17 MR. ZEILBERGER: Objection. Form.

18 THE WITNESS: We don't have that
19 data in order to assess whether it is or
20 not.

21 BY MS. McCORMICK:

22 Q. So because you don't have that data,
23 you can't say whether the 5 percent is an
24 overestimation of Opdivo and Yervoy sales for
25 MSI-high CRC patients?

1 A. That's correct, we don't have that
2 information.

3 Q. If we could turn to page 44 of 120
4 of your declaration. It's paragraph 69, but
5 it's got a few subparts. You can let me know
6 when you're there.

7 A. I'm there.

8 Q. And it's your understanding that Mr.
9 Segers evaluated Keytruda's [REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]?

13 MR. ZEILBERGER: Objection to form.

14 THE WITNESS: Mr. Segers' Appendix
15 10 compares percentages or his estimates of
16 percentages of new Keytruda patients under
17 treatment for NSCLC, melanoma, bladder and
18 MSI-high CRC.

19 And then he states in paragraph
20 35 -- this is his conclusion, which I
21 disagree with -- Appendix 10 shows that
22 Keytruda [REDACTED]

23 [REDACTED]

24 [REDACTED]

25 [REDACTED]. THE SULLIVAN GROUP OF COURT REPORTERS

1 So he's making this comparison to
2 bladder cancer, melanoma and NSCLC.

3 BY MS. McCORMICK:

4 Q. And in your response to Mr. Segers
5 on this, which I think is captured in paragraph
6 69, you -- and I want to focus on subpart B,
7 which is on page 45, you state [as read]:

8 "Mr. Segers should have, but did
9 not, compare the share obtained beginning from
10 the approval date of each indication."

11 Is that right?

12 A. That's correct. To the extent we're
13 making -- that he's making a claim about the
14 rate of penetration within a particular
15 indication, then we would want to see how
16 Keytruda performed in year one after approval,
17 year two after approval, year three after
18 approval and so on.

19 He did not perform that kind of a
20 comparison, which is what I think undermines
21 this conclusion that there was a [REDACTED]

22 [REDACTED]
23 [REDACTED].

24 Q. Did you perform that kind of
25 comparison you were just referring to?

1 A. No, because we don't have IQVIA
2 prescription data prior to 2017, which is what
3 these new patients under treatment calculations
4 are based in part on, and without that data,
5 you can't perform that kind of analysis, which
6 is why Mr. Segers' conclusions are not
7 supported. He makes a claim without having the
8 data necessary to support the claim.

9 Q. So because you did not have the
10 prescription data prior to 2017, you did not
11 compare the penetration of MSI-high CRC
12 indications compared to other cancers as you
13 just described?

14 MR. ZEILBERGER: Objection. Form.

15 THE WITNESS: I did not perform the
16 comparison of uptake over time or
17 penetration over time starting from the date
18 of launch because that data wasn't
19 available.

20 BY MS. McCORMICK:

21 Q. Did you ask for that data?

22 A. I don't believe I asked for any
23 additional IQVIA data.

24 Q. Dr. Sheridan, you included your CV
25 with your declaration about, or over the

1 A. That's correct.

2 Q. And your CV accurately captures your
3 education and professional experience after
4 high school?

5 A. I believe it does.

6 Q. Dr. Sheridan, you've been an expert
7 witness in litigation before?

8 A. Yes, I have.

9 Q. What do you consider your area of
10 expertise to be?

11 A. My area of expertise includes
12 finance and economics, licensing and other
13 analyses related to intellectual property
14 rights including or with a focus on
15 intellectual property rights in the life
16 sciences industry.

17 Q. Have you served as an expert in
18 pharmaceutical cases before?

19 A. Yes, I have.

20 Q. How many times?

21 A. When you say "pharmaceutical," do
22 you include biologics, such as this, or are you
23 talking about small molecules?

24 Q. I appreciate that. By
25 pharmaceutical cases, I mean anything related

1 to a drug, so biologic and small molecule.

2 A. And you want just the cases where I
3 have at least submitted an expert report, so,
4 for example, those that would be listed in my
5 expert witness experience section of this
6 declaration?

7 Q. Yeah, that's fine.

8 A. Based on my count, I see I think it
9 was 14 prior cases where I've at least
10 submitted an expert report that related to a
11 drug or I've included vaccines in that count.
12 There are other healthcare products that I did
13 not include, though, other types of healthcare
14 products that I did not include.

15 Q. And in those 14 cases, how many
16 times have you represented the branded side?

17 A. So I should be clear. In some of
18 these cases, they were not necessarily a patent
19 or trade secret infringement kind of case or
20 commercial success kind of analysis. They may
21 have been breach of contract. So just to
22 provide that as a clarification.

23 But let me count here. The
24 clarification is important because I think the
25 premise of your ~~question is that of those reports~~

1 brand and a generic and/or biosimilar adverse
2 similar to them; is that correct?

3 Q. Yes, that's right.

4 A. Just to get at your question, for
5 example, if there's a dispute between two
6 collaborative companies who are co-developing
7 something, how would you ask me to treat that?

8 Q. Yeah, that's fair. I appreciate
9 that. Let me see if I can back up a little
10 bit.

11 Are what are you looking at that
12 you're counting?

13 A. I am looking at the cases that are
14 listed beginning at page 56, which is page 8 of
15 my CV, and it's titled Expert Witness
16 Experience. So these are the cases where I
17 have served as an expert and have at least
18 submitted an expert report and in other cases
19 deposition testimony and trial testimony as
20 well.

21 So as I'm going through this to
22 count cases, I see cases that involve two
23 collaborative companies that had a dispute.
24 For example, there's Baxter versus CyDex.
25 Those were companies that were in COURT REPORTERS

1 collaboration. There's Soligenix versus
2 Emergent. Those were companies that were in a
3 collaboration.

4 So that's why my first count
5 compared to my second count may not make a lot
6 of sense because I don't know how to treat
7 those.

8 Q. I understand. Thank you. So
9 starting on page 66, are you listing every
10 single case you've worked on as an expert where
11 you've submitted a declaration or gave a report
12 for expert testimony?

13 A. Correct.

14 Q. Have you ever opined on behalf of a
15 biosimilar?

16 MR. ZEILBERGER: Objection. Form.

17 THE WITNESS: So I have been engaged
18 by a biosimilar to assist with licensing
19 negotiations and have performed modeling on
20 their behalf, but that was not in a
21 litigation context.

22 I believe I may have been -- I'm
23 just looking at these companies. So unlike
24 small molecule drugs where generic companies
25 are typically just generic and branded

1 companies are typically just branded,
2 biosimilar manufacturers also oftentimes
3 have branded drugs. So I'm not entirely
4 sure whether any of the companies that I've
5 been engaged by may have also had biosimilar
6 products.

7 BY MS. McCORMICK:

8 Q. In your work as an expert in
9 litigation, have you opined before regarding
10 commercial success?

11 A. Yes, I have.

12 Q. How many times?

13 A. I think I counted 11 reports where I
14 provided an opinion as to commercial success.
15 In some cases where there are damages being
16 discussed, it may be that commercial success is
17 sort of addressed but it's not the primary
18 focus of the opinion. There may be more cases
19 where I address the issue of commercial
20 success.

21 Q. Have you ever opined that a product
22 is a commercial success?

23 A. Yes, I have.

24 Q. How many times?

25 A. There are at least a group of about 100 reports

1 counted. I may have missed one.

2 Q. For those four, do you recall what
3 products you were opining that they were a
4 commercial success?

5 MR. ZEILBERGER: Objection. Scope.

6 THE WITNESS: I'm not going to
7 remember all the details, but I believe in
8 the case listed on page 59, Arbor
9 Pharmaceuticals, that case related to maybe
10 like a hair care treatment or a lice
11 treatment or something along those lines.

12 On page 58 of my declaration, the
13 Bausch Health case, I believe that was a
14 topical treatment. I don't recall exactly
15 what it was for. Skin care treatment.

16 Acadia Pharmaceuticals on page 57,
17 that's a Parkinson's-related psychosis
18 treatment. And then there was another case
19 for Acadia Pharmaceuticals on page 56, which
20 was also related to a Parkinson's-related or
21 Parkinson's-induced psychosis treatment.

22 BY MS. McCORMICK:

23 Q. And at least those four cases you
24 just referred to, you had determined that those
25 products were a ~~commercial success~~ ~~commercial success~~ COURT REPORTERS

1 A. That's correct.

2 Q. And as part of your opinion for
3 those four cases, did you also determine that
4 that commercial success had a nexus to the
5 claimed invention?

6 MR. ZEILBERGER: Objection. Scope.

7 THE WITNESS: I don't recall the
8 specifics in each of those cases as to what
9 my nexus analysis or opinion would have
10 related to, but it is certainly something I
11 would have looked at in each of those cases.

12 BY MS. McCORMICK:

13 Q. In your work as an expert, have you
14 ever before provided opinions related to immune
15 checkpoint inhibitors before this case?

16 A. So I have worked on consulting
17 assignments, non-litigation consulting
18 assignments assisting clients with licensing
19 and negotiations related to immune checkpoint
20 inhibitors. And I've worked on matters
21 involving antibody discovery platforms which
22 were either being used or intended to be used
23 to develop immune checkpoint inhibitors. At
24 least those are the projects or cases that I
25 could recall that ~~there would have been related to~~

1 immune checkpoint inhibitors.

2 Q. Did you rely on that prior
3 experience in forming your opinions for this
4 case?

5 A. I certainly relied on my experience
6 working as an economic consultant in the life
7 sciences industry -- an economic consultant to
8 the life sciences industry and my experience
9 working on other litigation matters in forming
10 my opinions.

11 And I believe I say this in
12 paragraph 7. I say [as read]:

13 I've been asked to offer my opinions
14 based on my knowledge, experience and analysis
15 of information available in these proceedings."

16 My knowledge and experience is of
17 course informed by other matters that I have
18 worked on in the past.

19 Q. Dr. Sheridan, have you worked for
20 Merck before this case?

21 A. There are no cases -- no prior
22 reports or other cases that I have provided for
23 Merck prior to this report.

24 Q. Have you ever served as an expert in
25 any capacity for Merck other than for this case?

1 MR. ZEILBERGER: Objection. Form.

2 THE WITNESS: Are you asking me
3 about any engagements that I may currently
4 have, or are you asking me prior cases that
5 I've worked on?

6 BY MS. McCORMICK:

7 Q. Both.

8 A. I'm not entirely sure any cases that
9 I haven't provided any opinions in yet where I
10 may or may not have been publicly disclosed
11 whether that's public information or not. So
12 I'm not sure about any other cases, but
13 certainly I have not worked on prior cases,
14 provided opinions or been engaged in consulting
15 matters for Merck in the past.

16 Q. I just want to understand your
17 answer. What do you mean by you're not sure
18 about any other cases?

19 A. So to the extent that there are
20 other cases where I may have or may not have
21 been retained by Merck for, I'm not sure
22 whether that's confidential information. I
23 don't know whether that is something that I'm
24 able to share with you.

25 Q. I see. And I am your referring to

1 this dispute with Johns Hopkins right now when
2 you're thinking of that?

3 A. No.

4 Q. So you have not worked on prior
5 cases, provided opinions or been engaged on
6 consulting matters for Merck in the past,
7 correct?

8 A. Right.

9 Q. Have you ever worked with Merck's
10 counsel before, Paul Hastings?

11 A. Yes.

12 Q. How many times?

13 A. I think I count three prior matters
14 where I was retained by Paul -- or a client of
15 Paul Hastings.

16 Q. And which three are those?

17 A. Arbor Pharmaceuticals on page 59,
18 Acadia Pharmaceuticals on page 57 and then the
19 other Acadia Pharmaceuticals matter on page 56.

20 Q. And when you worked with Paul
21 Hastings previously for those three cases, was
22 it the same attorneys that you're working with
23 now?

24 A. No, it was not.

25 Q. None of the same attorneys? REPORTERS

1 A. I don't believe any of the attorneys
2 from those matters, as far as I know, are
3 involved in this case.

4 Q. Do you have any relationship with
5 patent owner Johns Hopkins in this case?

6 A. No, I do not.

7 Q. Have you ever consulted with Johns
8 Hopkins or researchers from Johns Hopkins?

9 A. Not with Johns Hopkins. I don't
10 know if any -- you know, if researchers that
11 used to be at Johns Hopkins then went to
12 another place, that I don't know.

13 Q. Do you know any of the inventors
14 listed on the '393 patent?

15 A. I do not.

16 Q. Have you heard about any of the
17 inventors listed on the '393 patent before this
18 IPR?

19 A. No, I have not.

20 Q. Has your expert opinion ever been
21 excluded from a case before?

22 A. So a portion of my opinion in
23 University of Tennessee Search Foundation
24 versus Caelum Biosciences, Inc. was excluded,
25 and that case has been overturned by the Federal Circuit.

1 of certain technology transfer agreements from
2 the perspective of a technology transfer
3 professional.

4 Q. And why was part of your opinion
5 excluded in that University of Tennessee
6 Research Foundation case?

7 A. So I would have to go back and look
8 at exactly which parts were excluded and which
9 parts were allowed.

10 I think it was generally some of the
11 opinions that I was being asked to provide
12 about how would a technology transfer
13 professional interpret something. The judge
14 had basically said the interpretation of this
15 really is just a legal issue, so it's not
16 relevant how a tech transfer professional may
17 or may not have interpreted it.

18 Q. Other than the University of
19 Tennessee Research Foundation case, has your
20 opinion or testimony ever been excluded from a
21 case?

22 A. No, it has not.

23 Q. Dr. Sheridan, when were you first
24 contacted about this case?

25 A. I don't remember when I was first
~~THE SULLIVAN GROUP OF COURT REPORTERS~~

1 contacted. I think it was a while ago. I
2 wasn't retained, but I think I was contacted,
3 but I don't recall how long ago that was.

4 Q. Do you recall who contacted you?

5 A. I think it was Preston Ratliff, but
6 I'm not a hundred percent certain that it was
7 Preston.

8 Q. If it was Mr. Ratliff, did he
9 contact you by e-mail or by phone?

10 A. E-mail.

11 Q. And what did he say in that first
12 e-mail?

13 A. I don't recall. It was nothing
14 specific. You know, it's a potential matter.
15 Could you run conflicts? Something along those
16 lines.

17 Q. And when were you retained to work
18 on this case?

19 A. A couple months ago, a few months
20 ago. I'm not quite sure of the date.

21 Q. And did you do any work on this case
22 between when Mr. Ratliff first contacted you
23 and when you were hired to work on this case?

24 A. No.

25 Q. Did ~~you have any other~~ ~~THE HAVE ANY OTHER~~ COURT REPORTERS

1 communications with counsel between when you
2 were first contacted and when you were retained
3 in relation to this case?

4 A. I don't believe so.

5 Q. Had you heard of Keytruda before
6 working on this case?

7 A. Yes, I had.

8 Q. How had you heard about Keytruda?

9 A. Well, as I mentioned, a lot of my
10 consulting work is focussed on the life
11 sciences, and Keytruda is a well-known product
12 in the oncology space.

13 Q. And why is it well known?

14 MR. ZEILBERGER: Objection. Form.

15 THE WITNESS: My understanding is
16 that it's an effective drug for a number of
17 different cancers. It has over 50 different
18 approvals that it's received. So with my
19 focus on the life sciences, that's why I
20 would have heard of it.

21 BY MS. McCORMICK:

22 Q. Is there any other way that you had
23 heard of Keytruda before this case other than
24 through your life sciences consulting?

25 MR. ZEILBERGER: Objection. Form.

1 THE WITNESS: No, that would be the
2 primary way.

3 BY MS. McCORMICK:

4 Q. When did you start working on your
5 declaration for this case?

6 A. I don't recall. Again, it wasn't
7 that along ago, a few months ago, something in
8 that ballpark, but I don't recall the specific
9 date.

10 Q. How long have you spent working on
11 your declaration for the '393 patent?

12 A. I don't have that number memorized.

13 Q. Can you give me an estimate?

14 A. Are you referring to my time or my
15 staff's time or both?

16 Q. Your time.

17 A. I don't know. It could be a few
18 weeks of my time, in that ballpark. I'm not
19 certain.

20 Q. How much have you been paid in
21 connection with your work on this case?

22 A. Well, I'm not really compensated
23 directly in connection with my work on this.
24 I'm a salaried employee. CRA, the company that
25 I work for, is ~~presumably in connection with this~~ ~~REUTERS~~

1 case. I don't know to date what the total
2 billings have been.

3 Q. Your rate for working on this case
4 is \$850 an hour, correct?

5 A. That's correct.

6 Q. Is that your standard consulting
7 rate?

8 A. It is.

9 Q. Is your standard consulting rate any
10 different for litigation work than it is for
11 other projects?

12 A. No, it is not.

13 Q. Is your standard consulting rate
14 different for testifying versus working on your
15 declarations?

16 A. No.

17 Q. Has anyone assisted you with your
18 work on this case?

19 A. My support staff, has.

20 Q. Anyone other than your support
21 staff?

22 A. No. I mean, I've obviously had
23 conversations with Dr. Oberstein, and I've
24 relied on other additional information, and I
25 have had conversations with counsel. But I don't

1 no one else outside of those groups.

2 Q. Who on your support staff helped you
3 with your work on this case?

4 A. The primary person would be Annie
5 Gerspach.

6 Q. Who else?

7 A. There are junior staff members when
8 we complete a report or a declaration, you
9 know, checking footnotes and schedules that
10 that kind of thing where I don't necessarily
11 know the names of everyone who engaged in that
12 proofreading and checking process. I'm not
13 certain who the other individuals were.

14 Q. Was there anyone other than Annie
15 Gerspach and the junior staff members who
16 helped with proofing who helped you work on
17 this case?

18 A. No.

19 Q. And what's Annie Gerspach's rates?

20 A. I am not certain. It's lower than
21 mine, but I don't know what the number is.

22 Q. And do you know how much time Ms.
23 Gerspach has spent on this case?

24 A. I do not.

25 Q. Would you say it's more than the
THE SULLIVAN GROUP OF COURT REPORTERS

1 time you've spent on the case?

2 A. Yes.

3 Q. How much more?

4 A. I'm not sure about that. I said
5 yes, but without looking it up, I'm not a
6 hundred percent certain. Typically, it is the
7 case that the support staff overall spends more
8 time on the case than I would, but I'm not
9 certain.

10 Q. Dr. Sheridan, what was the process
11 for writing your declaration for this case?

12 A. My typical process is that I talk to
13 counsel about what the assignment is, I review
14 the information that's being provided, and my
15 support staff helps review that information as
16 well. I put together an outline, and then as
17 we go through the information we see what there
18 is that relates to each of the sections of the
19 outline, and I fill out those sections, and I
20 instruct my support staff to do either research
21 tasks or put together certain calculations and
22 schedules, tables, that kind of thing. I mean,
23 at a high level, that's a typical process that
24 would occur, and I believe that's the process
25 that we used here.

THE SULLIVAN GROUP OF COURT REPORTERS

1 Q. Other than conversations with
2 counsel for Merck that you just mentioned, did
3 counsel for Merck have any other role in
4 drafting your declaration?

5 A. No, I wouldn't say that they drafted
6 the declaration, but my normal process is once
7 I have an initial draft, I send it to counsel
8 for their review to make sure that we're
9 hitting the right points, getting the right
10 topics included, make sure we're not missing
11 relevant data or information that might be
12 available, that kind of thing. So that's also
13 a normal part of the process.

14 Q. You relied on Dr. Oberstein's
15 declaration in providing your opinions for this
16 case, right?

17 A. I did, yes.

18 Q. And Dr. Oberstein's declaration is
19 signed on the same date of yours.

20 Did you review a signed copy of his
21 declaration?

22 A. I believe that I received a signed
23 copy of the declaration on the day that I
24 submitted my declaration as well, and that
25 would be what I reviewed on just looking

1 for where I've cited it. I believe that's
2 correct, but sitting here at the moment, I
3 don't recall whether or not the declaration had
4 a signature or not on it. I assume that it
5 did, but I don't know.

6 Q. And did you review Dr. Oberstein's
7 declaration before you submitted your
8 declaration?

9 A. Yes, I believe that I received that
10 before submitting, and that's why I'm citing to
11 it in paragraphs 21 and 41, it looks like.

12 Q. But you don't recall right now
13 whether the declaration from Dr. Oberstein that
14 you reviewed had his signature on it, right?

15 A. I don't recall. I assume that it
16 did, but I don't recall.

17 Q. Do you know if anyone else in this
18 case is relying on your declaration?

19 A. I don't. I'm not aware of anyone
20 else. I don't know one way or the other.

21 Q. And have you reviewed any other
22 declarations in this case submitted by Hopkins,
23 besides Dr. Goldberg's and Mr. Segers'?

24 A. I don't believe I have.

25 Q. So you're not providing any reports as

1 in this case related to any declarations, other
2 than those of Dr. Goldberg and Mr. Segers,
3 right?

4 A. So I am providing opinions about the
5 declaration of Mr. Segers. I have an
6 understanding about the declaration of
7 Dr. Goldberg, but I am not providing any
8 opinions rebutting or addressing Dr. Goldberg's
9 opinions.

10 Q. And you're not providing any
11 opinions rebutting or addressing Dr. Nils
12 Lonberg's declaration, right?

13 A. That's correct.

14 Q. And you're not providing any
15 opinions or rebutting or addressing the
16 declaration submitted from Dr. Yung Li,
17 correct?

18 A. That's correct.

19 Q. What did you do to prepare for the
20 deposition today?

21 A. I met with counsel remotely on
22 Monday of this week and then in person on --
23 yesterday.

24 Q. Did you have any other meetings with
25 counsel to prepare for the deposition today?

1 A. No, I did not.

2 Q. Did you meet with anyone else to
3 prepare for the deposition today?

4 A. No.

5 Q. Besides meeting with counsel to
6 prepare for the deposition, what else did you
7 do to prepare for the deposition today?

8 A. I reviewed my declaration, the
9 documents and exhibits cited in my declaration,
10 the declaration of the other experts we've been
11 discussing, including Mr. Segers and the
12 documents cited by Mr. Segers in his
13 declaration.

14 Q. Did you do anything else to prepare
15 to give testimony today?

16 A. No, I would say that sums it up.

17 Q. Did you meet with your staff that
18 helped you work on this case to prepare to give
19 testimony today?

20 A. No, I did not.

21 Q. How long did you meet with counsel
22 on Monday to prepare to give testimony today?

23 A. It wasn't a full day. Maybe a few
24 hours. I don't recall exactly how much time,
25 but it was definitely not a full day.

1 Q. And how long did you meet in person
2 yesterday with counsel to prepare to give
3 testimony today?

4 A. I think that was four to five hours.

5 Q. And how long did you spend reviewing
6 documents that you just discussed to prepare to
7 give testimony today?

8 A. I don't have an estimate for that.
9 I'm not certain.

10 Q. I assume you're going to have to
11 provide one to counsel. Can you guess how much
12 time you might have spent reviewing documents
13 to prepare to testify today?

14 MR. ZEILBERGER: Objection. Form.

15 THE WITNESS: I wouldn't feel
16 comfortable guessing, but I can say my
17 review of these documents would have begun
18 towards the end of last week, and then some
19 of this week I spent time doing that as
20 well.

21 BY MS. McCORMICK:

22 Q. And who was at that first meeting
23 with counsel on Monday?

24 A. Daniel Zeilberger and Elizabeth
25 Moore, primarily. THE SULLIVAN GROUP OF COURT REPORTERS

1 there briefly. And Preston Ratliff was there
2 very briefly.

3 Q. Anyone else?

4 A. Which day are you talking about?
5 Yesterday or Monday?

6 Q. Monday.

7 A. Let me rephrase that. I was
8 describing yesterday.

9 I think it was just myself, Daniel
10 and Elizabeth Moore. I think my colleague
11 Annie may have been on the call at some point.
12 She didn't really engage in the discussion
13 much, but I believe she had been there at least
14 part of the time.

15 Q. And then for the in-person meeting
16 yesterday, you said you met with Mr.
17 Zeilberger, Ms. Moore, Ms. Moreira and Mr.
18 Ratliff was there briefly?

19 A. That's correct.

20 Q. Was there anyone else present
21 yesterday?

22 A. No.

23 Q. Is the amount of time you spent
24 preparing to give testimony today a typical
25 amount of time for you to prepare for testimony?

1 deposition testimony?

2 A. Yes.

3 MS. McCORMICK: Just give me one

4 moment.

5 I don't have any further questions

6 for you.

7 THE WITNESS: Thank you.

8 MR. ZEILBERGER: Thank you, Dr.

9 Sheridan. We don't have any questions for

10 you today.

11 I will note I believe counsel for

12 Johns Hopkins had you discuss a number of

13 exhibits that have been designated highly

14 confidential for this proceeding. So the

15 transcript for this deposition should be so

16 designated. With that, thank you very much,

17 Dr. Sheridan, for your time.

18 MS. McCORMICK: Off the record.

19 - - -

20 (Witness excused.)

21 - - -

22 (Deposition concluded at 1:30 p.m.)

23 - - -

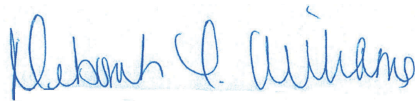
24

25 THE SULLIVAN GROUP OF COURT REPORTERS

C E R T I F I C A T E

I do hereby certify that I am a Notary Public in good standing, that the aforesaid testimony was taken before me, pursuant to notice, at the time and place indicated; that said deponent was by me duly sworn to tell the truth, the whole truth, and nothing but the truth; that the testimony of said deponent was correctly recorded in machine shorthand by me and thereafter transcribed under my supervision with computer-aided transcription; that the deposition is a true and correct record of the testimony given by the witness; and that I am neither of counsel nor kin to any party in said action, nor interested in the outcome thereof.

WITNESS my hand and official seal this 23rd day of February, 2025.



Deborah L. Williams, CCR, CLR
Notary Public

THE SULLIVAN GROUP OF COURT REPORTERS

INSTRUCTIONS TO WITNESS

Please read your deposition over carefully and make any necessary corrections. You should state the reason in the appropriate space on the errata sheet for any corrections that are made.

After doing so, please sign the errata sheet and date it.

You are signing same subject to the changes you have noted on the errata sheet, which will be attached to your deposition.

It is imperative that you return the original errata sheet to the deposing attorney within thirty (30) days of receipt of the deposition transcript by you. If you fail to do so, the deposition transcript may be deemed to be accurate and may be used in court.

THE SULLIVAN GROUP OF COURT REPORTERS

- - - - -
E R R A T A
- - - - -

PAGE	LINE	CHANGE
------	------	--------

Reason for Change: _____

Reason for Change: _____

Reason for Change: _____

Reason for Change: _____

Reason for Change: _____

Reason for Change: _____

Reason for Change: _____

Reason for Change: _____

Reason for Change: _____

Reason for Change: _____

THE SULLIVAN GROUP OF COURT REPORTERS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

ACKNOWLEDGMENT OF DEPONENT

I, _____, do hereby
certify that I have read the foregoing pages ____
to ____ and that the same is a correct
transcription of the answers given by me to the
questions therein propounded, except for the
corrections or changes in form or substance, if
any, noted in the attached Errata Sheet.

DATE SIGNATURE

Subscribed and sworn to before me
this
_____ day of _____, 2025.

My commission expires:

Notary Public

THE SULLIVAN GROUP OF COURT REPORTERS

	28:18,23	2025 11:14	33:7,8,15,25 34:9,16 35:7 46:16,23 47:9 49:16 55:1 56:14,25 57:4,18 60:23 100:14, 17 104:11
\$	18 29:1,22,25 75:15	2090 36:3	
	19 28:19,23 51:16 75:15	21 19:8 31:10,14 32:10,18 36:1,16,20 109:11	4
	1:30 114:22	2187 64:12	4 63:17,21,22 64:9,17 65:20 67:3 74:12
\$25 62:23	2	22 36:22 37:3,7,12	4.0 63:5 67:10
\$850 105:4	2 12:9,13,14 14:6,12 15:5 20:24 22:18 23:5 24:16, 22 26:11,14,15,18,19 27:15 64:16 66:12	24 36:22 37:3,7,12 38:9,14 39:2,17	4.1 64:15
1	2.0 12:25 13:5,7	25 59:19	41 55:12,19,22 58:5,17 109:11
1 19:16 33:9 34:22 64:11 75:13 89:25	20 31:10,14 32:2,9 53:2 82:23	27 43:14 44:16	43 59:18,21
10 49:23 58:4 87:15,21	2013 57:10 58:4	28 41:23 43:15 44:16 61:19	44 67:20 87:3
1001 34:20,22	2014 26:20 27:20 57:10 63:23 64:24 65:3,15 83:3	29 39:23	45 69:1 88:7
11 94:13	2015 35:6 55:2 56:13 57:3	3 51:17 52:1,5,8,15 68:11,12,14 70:21	47 11:8,10 60:15
1151 9:11 11:8,11,14,16,25 12:7,10 51:17	2016 71:14,22 72:1,8,11 74:16,20	30 28:1 51:14	48 69:1,6,8
120 8:19 11:8,11 64:17 82:23 87:3	2017 26:23 27:2 64:22 65:4, 18 66:1,3,7,12 68:17 71:15,18 72:1,2,7,8,9, 11,12 73:7 74:16 89:2, 10	31 11:14 71:11	49 61:18
1208 29:14	2018 67:3,6,11 72:2 84:19 85:3,9,20 86:8,16	32 27:19 72:19 76:24 82:22 83:1	5
1209 29:14	2019 85:3 86:9	34 76:24	5 84:8,12,13,18 85:1,12, 23,24 86:7,11,13,23
13 24:8,13,16,21 25:1	2023 62:22 63:10,15 68:17 72:20 73:2 74:22 84:23	35 87:20	50 103:17
14 91:9,15	2024 63:23 64:23,25 66:13	36 53:8	53 71:10
		393 15:7,11,22 16:1,6,11 17:21 18:6 19:1 20:1 21:12 23:2,5 31:12,20, 22 32:2,8,11,15,16,21	56 72:18 74:24 75:4 92:14 95:19 99:19
			57 95:16 99:18
			58 95:12

Index: \$140-58

59 95:8 99:17	67:2	address 9:15 50:16 94:19	analyze 54:25 55:3
	93 64:17 65:20	addressed 42:23 66:23,25 94:17	and/or 12:20 29:4 92:1
6		addresses 9:23	Annie 106:4,14,19 113:11
6 71:9	A	addressing 28:1 50:21 80:14 110:8, 11,15	antibody 32:20,25 96:21
6,000 27:25	a.m. 4:2	adopted 64:4 68:8,18	Apologies 48:19
61 82:20 86:3	Acadia 95:16,19 99:18,19	adverse 92:1	apologize 62:13
62 82:21 83:24 84:4,14	accepted 62:7	affirmed 4:5	appears 74:15
64 12:11	accepting 69:8	agree 7:18 14:23 30:4 53:16 54:18 59:20 77:6,10 81:13	Appendix 74:12 87:14,21
65 15:5	access 13:25 66:10	agreements 101:1	approval 27:1,10 42:19 65:9,12 88:10,16,17,18
66 93:9	account 53:4 71:5	alleged 41:25 42:25 43:4 48:3 50:14 60:4 71:18 73:13, 17	approvals 26:20,22 27:15 54:5,11, 22 72:14,17 103:18
68 81:25	accounted 64:7 65:18 69:12 86:6	allegedly 10:23	approved 28:10 65:24 70:10 72:13 75:18 77:17
69 87:4 88:6	accurate 5:23 6:23 12:7 83:14	alleging 73:22	approximately 63:7
691 21:15	accurately 90:2	allowed 101:9	Arbor 95:8 99:17
	achieve 77:16	alternative 40:5	area 42:25 90:9,11
7	achieved 27:2,9 54:12	amount 113:23,25	areas 77:17,18
7 77:1 97:12	acknowledge 80:20	analyses 42:14 54:10,12,16 69:6, 10 78:4 90:13	arose 28:11
7.0 81:23	active 33:12	analysis 9:23 19:13,15 35:11 36:13,15,18 42:16 47:3, 18 48:5,9,10 50:22 52:4 56:24 59:15 60:21 68:5, 10 69:21 70:18 71:18 79:18 80:13 84:1,6 89:5 91:20 96:9 97:14	art 19:2 20:1 55:1,4,5 56:13 57:3 58:7,18,21, 25 59:4
72 60:14,18	activities 48:2,7		article 76:17,21 77:2,3
79 70:22	actual 33:4 79:1		assess 86:19
	addition 74:11		assets 75:5,7
8	additional 13:17 14:2,3 21:6,11 58:7,18,20 59:4 66:10 74:18 75:20 89:23 105:24		
8 12:19 85:9,20 92:14	additionally 73:11		
9			
9 24:18,23 26:12,13			
92			

assigned 34:1	109:19	bladder 87:17 88:2	calls 25:20 33:17 82:15,19 83:7,12
assignment 39:12 107:13	B	blocked 40:9	cancer 7:16 17:18 26:23 29:3 32:5 49:10 50:2 56:9 59:14 67:23 76:8 88:2
assignments 96:17,18	back 6:11 20:23 51:13 57:25 61:18 67:2 70:21 72:15 92:9 101:7	blocking 38:10,12,19,25 39:3,10, 14 40:4,10	cancers 24:3 30:10,23 31:5 89:12 103:17
assist 93:18	background 23:14,17 24:9	BMS 75:21 84:12	capacity 97:25
assisted 105:17	backgrounds 28:19	brand 92:1	capture 13:19
assisting 96:18	ballpark 104:8,18	branded 91:16 93:25 94:1,3	captured 88:5
assume 6:8 22:7 84:21 109:4,15 112:10	based 27:3 40:16 42:4,7 59:14 80:23 86:11 89:4 91:8 97:14	breach 91:21	captures 90:2
assumed 86:11	basically 101:14	break 6:17,18 48:15,17 49:2 82:3,11	care 95:10,15
assuming 84:17	Bausch 95:13	briefly 70:3 113:1,2,18	case 10:9 11:1,17,23 12:18 13:4,10 14:17,25 15:11, 17 23:25 25:18,22,25 34:14 39:15 40:24 46:15 55:11 62:1,2,18 66:5 78:21 79:8 82:17 91:19 93:10 95:8,9,13, 18 96:15 97:4,20 100:3, 5,21,25 101:6,19,21,24 102:18,21,23 103:3,6, 23 104:5,21 105:1,3,18 106:3,17,23 107:1,7,8, 11 108:16 109:18,22 110:1 111:18
assumption 69:9 78:12,23,25 79:9, 12,23 84:16 85:6	Baxter 92:24	Bristol-meyers 86:5	cases 37:11,17,20 39:3,6,9 48:2,5 90:18,25 91:2,9, 15,18 92:13,16,18,22 94:15,18 95:23 96:3,8, 11,24 97:21,22 98:4,8, 12,13,18,20 99:5,21
assumptions 50:23 68:8,18 78:9 79:19,21 84:15	beginning 65:8,11,14 66:1 88:9 92:14	broad 54:21 79:15	category 84:19,25 85:24 86:12, 14
attached 8:21	begun 112:17	broadly 73:10 76:17	causality 42:21
attachments 9:4	behalf 93:14,20	broken 81:18	caution 26:1
attempt 53:10	billings 105:2	C	
attended 45:7,17		Caelum 100:24	
attorneys 26:3 99:22,25 100:1	biologic 91:1	calculate 68:9	
attributable 62:5 73:23	biologics 90:22	calculated 64:15	
attribute 67:1 84:12,13	Biosciences 100:24	calculation 65:14	
attributed 84:9	biosimilar 92:1 93:15,18 94:2,5	calculations 89:3 107:21	
aware 13:6,13,23 27:6,12 28:9 30:21 52:10,13,19,23 58:24 62:22 63:9	bit 92:10	call 12:14 19:19,22,24 27:20 83:4 84:20 85:3, 4,7 113:11	

cell 76:7	58:13 60:23 86:4	16 49:9,20 50:1,7 53:5, 12 59:10,12,24 60:4,7 61:2,5,9,16 66:17,20,22 67:18 71:7 91:20 94:10, 14,16,19,22 95:4,25 96:4	computer 8:12 22:1,5,11
challenged 31:11,16,18,19	clarification 91:22,24		concluded 114:22
change 6:12 74:15	clarify 57:21 68:23		concluding 69:5
changed 8:25 85:2	clear 84:11 91:17	commercialized 41:16	conclusion 33:18 87:20 88:21
characterize 9:20,22	client 99:14	commercially 67:23	conclusions 59:12 89:6
checking 106:9,12	clients 96:18	communications 103:1	conduct 37:22 39:11
checkpoint 23:14,19 29:4 30:9,15, 19,22 31:4 76:2 80:21 96:15,19,23 97:1	clinical 27:3,7,12	companies 83:9,20 92:6,23,25 93:2,23,24 94:1,4	conducted 28:8 48:10
chemotherapies 80:2,9,17 81:2,5,8,17	Clinicaltrials.gov 56:7 58:4	company 40:21 48:8 75:21 82:15, 19 83:7,16 104:24	conference 8:4
chemotherapy 28:24 29:3,7,11 30:2,3 80:5 81:11,19	Clinicaltrials.gov. 55:17	compare 46:22 47:8,14 71:18 88:9 89:11	confidential 98:22 114:14
cite 22:3 27:20 37:11 39:3 43:13 73:15 74:23	co-developing 92:6	compared 80:11 81:2,11 87:11 88:22 89:12 93:5	conflicts 102:15
cited 12:23 24:13,15,21,23 25:4,11,12 29:14 36:2,9 37:20 82:19 109:1 111:9,12	co-sponsored 27:7	compares 87:15	connection 36:8 46:15 104:21,23, 25
citing 44:20 55:11 109:10	collaboration 27:16 93:1,3	comparing 47:21 48:7 74:24 76:7	conservatively 65:10
claim 19:16 23:2,5,11 33:9 55:15 57:18 58:2 73:6 88:13 89:7,8	collaborations 28:12	comparison 58:12 76:14 88:1,20,25 89:16	consideration 61:10
claimed 19:1 32:20 34:9 38:21, 22 40:1,3 49:6,11,19 50:3,6 51:6,10 96:5	collaborative 92:6,23	compensated 104:22	considerations 11:1 60:22 61:6,15
claiming 32:25	colleague 113:10	compete 80:10	considered 13:9 71:6
claims 15:14,22 16:1,6,11 17:22 18:7 19:15,25 31:23 32:3,8,11,16,25 46:16,22 47:4,8,15,21 48:1,7 55:1 56:14 57:4	colorectal 7:15 17:18 32:5 49:10 50:2 56:8 59:14,24 67:23	competitor 75:23 80:2	consistent 25:9 56:5
	column 64:21,23 65:13 71:25 85:21	complete 5:23 6:23 12:7 106:8	consultant 97:6,7
	columns 64:18	composition 33:1	consulted 100:7
	combination 58:6,18	compounding 66:23	consulting 78:1 96:16,17 98:14 99:6 103:10,24 105:6,9, 13
	comfortable 112:16	comprehensive 29:2 30:13	contact 102:9
	commercial 9:12,16,23 11:2,3 36:24 37:1,5,9,17,21 38:1,6,		contacted 101:24 102:1,2,4,22

103:2	109:2 110:13,17,18 113:19	critique 85:5	14,20 36:3,10,12,19,23 38:9 41:23 42:1,7,8,15, 23 43:4,18 44:5,11,15 45:13,16,17 46:13 51:13 52:1 53:3,9,22 54:2 55:9,12 56:11,17, 19,20 58:23 59:2,6,19 60:12,15,20 61:1,14,19 68:12,14 69:23,24 70:2, 22 71:10 72:19 74:24 75:13,14 76:7,19 81:23 82:1,23 83:2,24 85:10 87:4 89:25 91:6 93:11 95:12 104:5,11 106:8 107:11 108:4,6,15,18, 21,23,24 109:3,7,8,13, 18 110:5,6,12,16 111:8, 9,10,13
contents 26:2	corrections 11:24 12:4	critiquing 84:14,24	declarations 10:13 105:15 109:22 110:1
context 38:4,6 78:5 93:21	counsel 4:16 14:7 37:1,8,15 49:1 51:22 82:10 99:10 103:1 105:25 107:13 108:2,3,7 110:21,25 111:5,21 112:2,11,23 114:11	current 29:2	declining 69:15
contract 91:21	count 91:8,11,23 92:22 93:4,5 99:13	CV 89:24 90:2 92:15	declined 69:15
contradicted 73:1	counted 94:13 95:1	Cydex 92:24	deficient 7:12 32:5
contributed 53:5 54:6 66:24	counting 92:12	D	demonstrate 69:6,10 71:20
contributing 77:7	couple 102:19	D.C. 8:3	demonstrated 9:25 60:2 66:21
contributions 54:13	COURT 85:15	damages 94:15	demonstrates 42:21
contributors 77:2	courtroom 5:20	Dan 4:13	depend 78:16,18,20 79:4,6
conversation 17:6 18:12,15,16,20,24 20:6,7 42:11 43:20 44:13,18 45:15,23 46:10 56:11,20 59:7	cover 7:3 15:15 19:23 34:5	Daniel 8:6 112:24 113:9	deposition 5:8 7:5 8:23 14:18,19, 21 15:1 36:8 43:7,10, 14,19 44:21 45:3,7,8, 10,14,18 92:19 110:20, 25 111:3,6,7 114:1,15, 22
conversations 16:4,7,8 26:3 51:22,24 70:4 105:23,25 108:1	CRA 104:24	data 62:2,17,20 63:4,7 64:13 66:1,2,4,6,8,9,11 79:1 80:19 81:4,7,17 86:19, 22 89:2,4,8,10,18,21,23 108:11	describe 29:8 60:12 75:12 81:24, 25
copies 9:7	CRC 7:14 18:6 23:6 26:23 27:2 28:20,25 29:5,8,12 30:4,20 31:24 42:20 43:21 44:2 46:24 47:10, 22 49:7 53:13 54:7,20 61:20,23 62:5,8,14 64:2,7,14 65:7,9,17,22 66:13 67:7,11,16 68:6, 9,12,15,19,21,22,24 69:2,4,5,7,9,11,17,18, 24,25 70:7,8,10,23 71:1,4 72:13 73:14,19 74:1 75:18,24 76:19 77:9 80:3,5,10,13,16,20 81:3,5,9,12 84:9,13,18, 20 85:25 86:6,15,25 87:10,18,23 89:11	date 17:3 88:10 89:17 102:20 104:9 105:1 108:19	describing 75:20 113:8
copy 8:13,15,17 9:2 21:24 108:20,23	criticizing 60:6	day 108:23 111:23,25 113:4	description 31:17 36:25 80:24
correct 5:10,16,24 9:13,17 10:14 11:4,5 12:2 14:17 16:15,18,19 20:13,17, 18,21,22 21:21 22:8 24:1,3,4,10,11 25:15,16 27:4 28:21 31:12,16,21 33:10,16 34:1,10,24,25 35:2 37:13 38:10 39:1 40:25 41:5 42:2,3,5 43:16,23 44:13 45:23 46:11,24 50:11 51:8,12 52:5,6,17 53:24 54:3 59:8 61:3,17 65:1,25 66:15 70:23,24 71:2,3 74:25 76:9 77:20 78:9, 10 82:17 83:5 87:1 88:12 89:25 90:1 92:2 93:13 96:1 99:7 105:4,5		December 68:17	designated 114:13,16
		declarant 19:12	
		declarants 10:14	
		declaration 8:13,14,16,20 9:3,8,10, 12,15 10:9,17 11:7,13, 25 12:6,10,14,24 13:10, 15 14:16,25 15:2,11 16:13,16 19:8 21:25 22:3 23:13 24:6,9,19 25:10,12 28:18 29:17 31:10,15 32:15 35:11,	

desire 40:17	discussed 18:2 22:14 31:7 44:24 45:3 55:21 59:2 70:3 94:16 112:6	driven 74:7	Emergent 93:2
detail 39:23		drug 33:1,4 63:11,14 65:19 91:1,11 103:16	employee 104:24
details 17:19 45:5 95:7	discusses 23:19	drugs 80:15 93:24 94:3	employees 26:8 34:10 35:8
determination 34:12	discussing 18:6 53:18 84:5 111:11	due 49:11 50:3 54:20	encompass 7:20
determine 70:16 96:3	discussion 17:12,14,22,24,25 18:2, 4,9 23:20 25:7,11 113:12	duly 4:5	end 24:17 112:18
determined 95:24	discussions 23:22 24:6 25:7,21 28:23		enforcement 40:10
develop 40:6 96:23	disincentives 66:25	E	engage 113:12
developed 40:16	disincentivized 40:8	e-mail 102:9,10,12	engaged 93:17 94:5 98:14 99:5 106:11
development 27:22	dispute 33:20 92:5,23 99:1	earlier 35:18,25 38:20 39:25	engagements 78:3 98:3
difference 65:21	distinction 7:23	earnings 27:20 82:15,19 83:3,7, 11 84:20 85:3,4,7	entire 32:7
differences 77:12	dmmr 7:10,20,23 44:2 49:10 50:2 67:23 86:6 87:23	ease 7:4	entirety 11:16 15:10
dig 70:19	DNA 32:4	economic 66:25 77:24 78:3,7,12 79:18 82:14 97:6,7	entities 40:15
direct 45:11 46:4 55:22 59:16	document 12:16,22 13:1,7,12,18 14:6,12 15:6 20:24 28:3	economically 40:8	entry 38:18 39:18
directing 74:18	documents 12:17,20 13:8,17,21,24 14:2,5,8 22:10 24:13, 15,21,23 30:6 57:8,15 111:9,12 112:6,12,17	economics 90:12	equate 85:23
direction 12:21	dollar 64:22	economist 77:19	equated 85:13
directly 29:17,21 30:6 104:23	dozen 27:24	education 90:3	errors 50:20
disagree 87:21	draft 108:7	effective 103:16	establish 60:22
disagreed 44:23	drafted 108:5	effects 54:21	estimate 62:4 64:14 104:13 112:8
disclosed 55:15 57:19 58:2,13 98:10	drafting 108:4	efficiency 7:19	estimated 63:25 64:2 65:17,21 66:13 67:7,11
discovery 96:21		efforts 53:23	estimates 62:3 87:15
discuss 26:2 38:10 48:25 55:24 82:9 114:12		electronic 21:24 49:14	estimation 62:8
		Elizabeth 4:9,14 112:24 113:10	

evaluated 87:9	explanation 40:5	find 21:4 22:20,24 41:12 72:23 73:4,15 74:4 83:6	formed 23:9
evidence 9:25	extent 27:8 30:1 33:19 46:2 59:1 71:21 88:12 98:19	fine 49:17 91:7	forming 46:14 97:3,9
EXAMINATION 4:21		Fish 5:2	Foundation 45:25 100:23 101:6,19
examined 4:6	F	fit 74:14	four-quarter 72:10
examples 75:8 79:16	face 34:16 35:7	five-year 84:22	free 7:24
Excellence 75:5	fact 69:3	flawed 59:15 60:21	front 5:20 8:10,11,16,20,24 9:3,6 11:7 63:17
excluded 100:21,24 101:5,8,20	factors 53:4,11,17 66:23 70:14	flaws 84:5,7	full 8:19 9:2 111:23,25
excused 114:20	facts 78:21 79:8,11	focus 18:1 26:22 85:19 88:6 90:14 94:18 103:19	function 66:4
executive 27:21	Fails 53:4	focused 17:13 62:14	G
exhibit 9:11 11:8,11,14,16,25 12:7,10 29:14 34:20,22 36:2,3 51:17 64:12	fair 6:8 63:9 81:9 92:8	focussed 61:2,4,9,12,15 77:5,6 103:10	gave 93:11
exhibits 14:19,21 22:2 111:9 114:13	false 83:21	focussing 74:22 85:8	general 24:5 39:1 54:17
existence 38:19	familiar 37:19 40:20,23	folder 22:2	generally 10:1 20:7 40:22 75:6 83:17 101:10
expanded 27:23	faster 87:24 88:21	FOLFOX 30:2	generate 40:17
expect 11:19	FDA 26:19 75:18	folks 4:11	generic 92:1 93:24,25
experience 90:3 91:5 92:16 97:3,5, 8,14,16	feel 6:18 7:24 14:1 112:15	footnotes 13:15 106:9	Gerspach 106:5,15,23
expert 10:12 14:11,16 77:24 78:8,13 82:14 90:6,17 91:3,5,10 92:15,17,18 93:10,12 94:8 96:13 97:24 100:20	figure 24:16,18,22 26:11,14, 15,18,19 27:15 51:17, 25 52:4,8,15 71:9 75:13 76:24 77:1 85:9,20	form 9:18 10:15 21:5 23:8,16 27:5,18 29:18 30:24 31:25 35:12,21 38:2 40:14 41:1,14 43:24 44:19 46:18,25 47:24 49:21 50:9 51:1 52:22 54:8 57:6,20 60:9 61:7 62:12,16,24 63:12 67:9 71:16 76:10 77:21 78:14,19 79:2 83:8 86:17 87:13 89:14 93:16 98:1 103:14,25 112:14	Gerspach's 106:19
expertise 90:10,11	filing 28:14		give 5:19,22 6:22 21:7 104:13 111:15,18,22 112:2,7 113:24,25 114:3
experts 10:13,19,20,22,23 48:11 111:10	filings 28:7 41:21 83:11		global 63:1,8
	fill 107:19		Goldberg 14:16 19:12,14 36:4 43:20 44:1,18,23 45:4, 15,23 46:10 110:2,7
	finance 90:12		
	financial 79:18		

Goldberg's 14:25 35:11,20 36:13, 18 42:5,10 44:12 109:23 110:8 good 4:12,24,25 6:16 graph 74:12 Great 4:18 ground 5:8 groups 106:1 growing 67:25 68:2,4 growth 69:13 74:3 guess 57:11 60:2 68:23 74:10 112:11 guessing 112:16 guidelines 29:3,13 30:12,17 75:17 H hair 95:10 half 49:24 happened 73:13 happy 44:24 45:10 46:4 hard 8:13,15,17 9:7 Hastings 4:14,16 8:3 26:4 99:10, 15,21 head 45:9 heading 20:25 53:3 61:20	Health 95:13 healthcare 91:12,13 hear 45:2 heard 44:8 45:19,21 46:2 100:16 103:5,8,20,23 held 48:22 82:6 helped 106:2,16 111:18 helps 107:15 high 7:19 19:2 20:2 31:6 32:4 41:2 56:1 63:20 90:4 107:23 highly 114:13 hired 102:23 hitting 108:9 honest 83:10 Hopkins 5:3 10:13 27:4,8 99:1 100:5,8,9,11 109:22 114:12 Hopkins' 14:16 hour 6:17 48:15,16 105:4 hours 111:24 112:4 hundred 83:13 102:6 107:6 hypothetical 79:15 I i.e. 38:20 40:7	identified 14:9,10 identifies 77:2 identify 22:21 26:4 30:6,18 41:16 84:7 immune 23:14,19 29:4 30:8,15, 18,21 31:4 76:2 80:21 96:14,19,23 97:1 immunotherapies 80:23 impeded 38:18 important 5:19 91:24 in-house 4:16 in-person 113:15 include 12:22 27:23 28:22 29:16,20 30:8 32:17 36:12 43:17 54:4 65:2 75:8 81:16 90:22 91:13, 14 included 13:5,17 16:17 36:18 42:8 44:4 59:20 65:10 72:7 73:14 80:17,25 89:24 91:11 108:10 includes 13:8 33:9 51:5 90:11 including 8:21 9:4 42:8 68:6 90:14 111:11 incomplete 59:14 incorrectly 86:4 increase 74:3 increased 87:9,22 independent	15:21,23 22:25 37:16, 22 56:23 59:3 69:21 72:24 index 12:16,22 13:1,7,18 14:6,12 15:6 20:24 indication 26:20 43:21 49:7 54:5 70:10 73:24 75:19 77:17 81:6,9 87:10,23 88:10,15 indications 28:10 54:14,23 76:8,20, 23 77:7,13 84:19 85:9, 24 86:6,12,14 87:11,25 88:23 89:12 indicative 67:17 indicia 11:2 individual 48:8 individuals 26:5 35:3 106:13 industry 90:16 97:7,8 inflection 71:14,15,19,21,22 73:7, 12,17,22 74:2,21 inflexion 42:18 information 14:3 15:15 22:20 24:10 25:8,9 30:17 74:19 83:15,16 85:7 87:2 97:15 98:11,22 105:24 107:14,15,17 108:11 informed 97:17 infringement 48:4 91:19 infringer 48:3 ingredient 33:13 inhibitor 75:11,14 76:2,5
--	---	--	--

inhibitors 17:9 23:14,19 29:4 30:9,15,19,22 31:4 80:22 96:15,20,23 97:1	92:22 involved 28:11 100:3 involving 27:25 96:21 IP 78:2 IPR 20:20 59:11 97:25 100:18 IQVIA 62:2 66:1,2,4,6,10 72:20 73:1 74:9,22 76:17 77:11 89:1,23 issue 33:21 47:5 94:19 101:15 issues 9:16 19:3,5 20:2	Keytruda 9:17,24 21:18 22:15,17, 23 23:7 24:10,12,20 25:2,13,22 26:19 27:1, 15,23 32:20 33:13 41:5 42:18 44:2 46:16,23 47:9,23 49:6 50:8 51:18 52:20,24 53:12,20 54:12,14,22 56:8 61:20 62:5,10,19,23 63:6,8, 10,13,23 64:1,2,6,10,14 65:6,7,8,15,22 66:13 67:7,11 68:6,12,15,16, 21,24 69:12,14,17,24 70:7,23 71:1,6 72:12 73:18 74:3,25 75:8,23 76:8,14,23 77:3,8 80:3, 8,11 81:2,11,16,22 87:12,16,22 88:16 103:5,8,11,23 Keytruda's 49:9,20 50:1 54:1,5,6 59:9,13,23 61:23,25 67:16,22 87:9 kind 48:8 88:19,24 89:5 91:19,20 106:10 107:22 108:12 kinds 78:4 knowledge 12:8 13:11 59:1 97:14, 16	left 34:23 left-hand 65:5 legal 33:18,21 34:4,11,13 36:24 37:4,22 39:11,14 47:4,5,16,18 101:15 level 19:3 20:2 31:6 41:2 56:1 62:3 63:20 107:23 Li 110:16 lice 95:10 licensed 52:7 licenses 52:11,13,19,24 licensing 78:2 90:12 93:18 96:18 life 90:15 97:6,8 103:10,19, 24 Lim 4:9,15 limit 84:3 limitation 55:14 57:18 58:1 lines 95:11 102:16 list 29:15 30:8 31:7 34:23 listed 13:14 14:5 15:7 21:3,7, 12,13 22:14,18 23:4 24:18 27:15 29:24 30:12 34:6,16 35:1 51:25 52:4,8,15 91:4 92:14 95:8 100:14,17 listened 43:6 listing 12:16 93:9
instances 79:20,23 80:12 institutions 27:16 28:5,8,12,16 instruct 107:20 intellectual 90:13,15 intended 13:19 30:13 73:5 96:22 interpret 101:13 interpretation 50:18 100:25 101:14 interpreted 101:17 invent 33:5 invention 33:6 35:6 37:25 38:21, 23 40:2,3,16 44:4 49:6, 11,19 50:3,7 51:6,11 96:5 inventors 34:8,12,15,23 35:7 100:13,17 investigate 69:16 70:15 investors 83:10 involve	J January 11:14 64:22,23,25 65:4 66:1,3,12 68:17 JHU 10:1,19 19:11 33:4 Jinny 4:9,15 Johns 5:3 10:13 27:3,8 99:1 100:5,7,8,9,11 114:12 joining 4:15,17 judge 5:20 101:13 June 58:4 junior 106:7,15	L language 38:13 46:12 57:25 laptop 21:25 largest 63:14 launch 65:15,19,23 67:25 68:2, 4 75:5 76:22 77:4 89:18 launches 75:7 led 53:11 74:2,20	
	K Karen 4:16 25:20 112:25 key 77:7		

litigation 78:6 90:7 93:21 94:9 97:9 105:10 Lonberg's 110:12 long 18:14 102:3 104:10 111:21 112:1,5 long-felt 10:5 50:25 51:3,7 looked 22:19 53:19 57:7 62:10 73:10 74:6 96:11 lot 15:2 17:7,12,18 57:7 93:5 103:9 lower 106:20 lunch 82:11 lung 76:7	84:5 marketing 53:20,22 marketplace 40:12,13 54:7 75:24 80:7,10,13,18,24 markets 75:22 markings 8:17,24 markup 22:9 mathematically 73:8 matter 99:19 102:14 matters 37:21 96:20 97:9,17 98:15 99:6,13 100:2 Mccormick 4:8,18,23 5:1 9:21 10:24 21:9,19 23:12,23 26:9 27:13 28:13 29:23 31:2 32:6 33:24 34:7 35:17,22 36:11 38:5 40:18 41:3,11,18 44:10 45:1 46:7,21 47:7,19 48:18,24 50:4,12 51:4 52:12,18 53:1 54:24 57:14 58:8 60:13 61:13 62:13,21 63:2,16 67:13 71:23 76:16 77:23 78:17,24 79:5,10,25 82:2,8 83:19 85:17,18 86:21 88:3 89:20 94:7 95:22 96:12 98:6 103:21 104:3 112:21 114:3,18 means 5:12 medical 6:21 23:24 27:11 69:20 medicine 17:19 meet 111:2,17,21 112:1 meeting 111:5 112:22 113:15	meetings 110:24 melanoma 87:17 88:2 members 106:7,15 memorized 104:12 mention 77:9 mentioned 25:6 45:7 64:3 103:9 108:2 Merck 4:17 21:17 22:20 25:14, 17,24 26:4,8 27:8,17,21 28:6 33:3,16 34:1,6,10 35:2,8 40:19,20,23 41:4,8 51:17 52:7,14, 20,24 62:17 64:13 73:25 74:8 84:11 97:20, 23,25 98:15,21 99:6 108:2,3 Merck's 21:13 22:14 23:10 53:22 83:3 99:9 met 110:21 113:16 method 31:23 33:9 34:9 methodology 62:6,7 64:3 71:20 methods 23:6 32:3 microsatellite 7:7 32:4 microsatellites 17:8 million 67:8,12 millions 64:22 mine 106:21 minimal 69:13	minutes 48:16 misleading 60:21 mismatch 7:11 17:8 32:5 missed 95:1 missing 108:10 modeling 93:19 modify 6:12 molecule 91:1 93:24 molecules 90:23 moment 17:11 18:8 21:8 28:9 31:1 32:13 40:19 109:2 114:4 Monday 110:22 111:22 112:23 113:5,6 monitors 8:12 month 18:21 months 102:19 104:7 Moore 4:9,14 112:25 113:10, 17 Moreira 4:16 25:20,23 112:25 113:17 morning 4:12,24,25 MSI 7:6,19 MSI-HIGH 7:23 23:6 26:23 27:2 28:20,25 29:8,11 30:4, 10,20,23 31:5,24 42:20 43:21 44:2 46:24 47:10,
---	--	---	--

22 49:7,10 50:2 54:7,20 55:24 56:3,6,8,24 57:4, 16,22 58:6,9,11,17 59:13,23 62:5,8,14 65:9,17,24 67:16,22 68:6,9,19,22 69:4,5,7,9, 11,17,18,25 70:8,10,12, 16,17 71:4 72:13 73:14, 18 74:1 75:17,24 76:19 77:9 80:3,5,10,13,16,19 81:3,5,9,11 84:9,13,18, 20 85:13,25 86:6,15,25 87:10,18,23 88:22 89:11 MSI-HIGH/DMMR 29:5 53:13 multi-indication 75:5,7 76:22 77:4,15,16 multiple 72:14 Multiplied 75:4 N names 26:5 34:24 35:1 106:11 naming 30:2,5 National 29:2 NCCN 29:13 30:12,17 75:17 necessarily 91:18 106:10 needed 14:1 negotiations 93:19 96:19 net 63:6,23 64:1,2,10,14 65:22 66:13 67:7,12 Network 29:3 Neugut 15:18 16:3,5,9,12,14 23:21 55:11 56:5 57:23 58:14	Neugut's 24:5 25:10,12 56:11,19 59:5 69:23 nexus 9:25 11:3 19:3,6,15,17 20:2 35:11 36:13,15,18 37:2,6,10,18 38:7 41:25 42:10,16,21,25 43:4 49:5,16,19 50:6,15,23, 24 51:6,10 53:23 54:1 96:4,9 Nils 110:11 non-litigation 96:17 non-small 76:7 nonobviousness 38:17 61:11 normal 108:6,13 note 29:1 64:11 114:11 notes 64:11 noticed 74:12 noting 30:16 NSCLC 54:14 76:8,15 77:5 87:17 88:2 number 12:1 37:19 54:11 58:23, 24 67:16 68:1 70:25 85:1 86:15 103:16 104:12 106:21 114:12 numbering 76:25 numbers 64:8 O oath 5:10 Oberstein	15:19 16:2,5,8,17,22 17:1,4 18:4,12,24 19:14,18,22,25 20:10 23:22 24:7 25:8,11 31:3 32:19,24 55:6,7,21,25 56:12,21 57:24 58:15 59:2,7 69:22 70:5 105:23 109:13 Oberstein's 56:17,20 58:23 59:6 69:23 108:14,18 109:6 objection 9:18 10:15 21:5 23:8,16 27:5,18 29:18 30:24 31:25 33:17 34:2 35:12, 21 38:2 40:14 41:1,9,14 43:24 44:19 45:24 46:18,25 47:11,24 49:21 50:9 51:1 52:9, 16,21 54:8 57:6,20 60:9 61:7 62:12,16,24 63:12 67:9 71:16 76:10 77:21 78:14,19 79:2,7,13 83:8 86:17 87:13 89:14 93:16 95:5 96:6 98:1 103:14,25 112:14 objective 11:2 obligation 83:10 obtained 88:9 obvious 40:7 occur 107:24 occurred 20:5 42:19 66:3 71:22 73:18 off-label 70:14 offer 40:4 53:21,25 97:13 offering 10:25 20:19 23:24 24:2 office 8:4,5 oftentimes 94:2	oncologist 20:17 oncology 103:12 Opdivo 74:25 75:9,10,11,14,16, 22,23 76:2,9,14 84:1,8 85:14,25 86:8,16,24 opined 93:14 94:9,21 opines 49:5,18 50:15 67:15 opining 10:5,8 50:6,24 59:22 66:16,19 95:3 opinion 47:17 49:18 53:21,25 60:1,6 71:4 80:1 85:12 94:14,18 96:2,9 100:20, 22 101:4,20 opinions 10:2,25 11:17,19,23 13:4,9 15:17 20:20 23:10,25 24:2 25:18,19, 22,25 33:22 34:4,13 35:15 39:15 46:14 47:6 50:14 51:3,10 56:5 57:23 58:14 59:10 61:4 73:1 78:4 96:14 97:3, 10,13 98:9,14 99:5 101:11 108:15 109:25 110:4,8,9,11,15 opposed 20:6 options 29:9,15,16 30:3,14 31:8 order 62:4 70:15 71:6 86:19 outline 107:16,19 overestimation 85:14 86:14,24 overlap 72:5 overlooked 13:13 overview
--	--	---	--

23:18 36:23	45:12,16 72:24 74:6 77:25 78:12 89:4 96:2 101:4 108:13 113:14	86:15,25 87:16 89:3	40:21 41:4,8 90:18,21, 25
owned 33:16		Paul 4:14,15 8:3 26:4 99:10, 14,15,20	Pharmaceuticals 95:9,16,19 99:17,18,19
owner 5:3 100:5	partial 63:24	PD-1 17:8 75:11,14 76:4	phone 102:9
ownership 33:20	parties 74:8	PD-L1 17:9	phrase 58:16
	parties' 48:10	pembrolizumab 31:23 33:5,6,10,12	physically 8:11
P	parts 15:13 101:8,9	penalties 83:21	place 38:21 40:1 55:10,19 100:12
p.m. 114:22	party 73:25	penetration 87:10,22 88:14,22 89:11,17	platforms 96:21
pages 8:19	past 97:18 98:15 99:6	people 35:2	point 6:25 23:20 42:18 71:14, 15,21,22 73:7,13,17,22 74:2,13,21 113:11
paid 104:20,25	patent 5:2 15:7,11,16,22 16:1, 6,11 17:22 18:7 19:1 20:1,25 21:12 23:2 31:11,12,16,18,19,20, 23 32:3,8,11,16,21 33:3,7,8,15,21,25 34:5, 9,16 35:8 38:17,20,25 40:1,4,10 43:22 46:16, 23 47:3,9,21 48:1,4 49:16 55:2 56:14,25 57:4,18 60:23 91:18 100:5,14,17 104:11	percent 83:13 84:8,12,13,18 85:1,13,23,24 86:8,11, 13,23 102:6 107:6	points 10:3 24:22 65:3 71:19 108:9
paper 72:20,23 73:2 74:23,24 75:2,3 76:12 77:8,11	patent, 38:20	percentage 62:4 84:17,21	portion 54:20 64:5 65:16 69:12, 14 70:17 71:5 81:15 100:22
paragraph 12:19 19:8,9 24:17 26:10 27:19 29:1,22,25 32:2,9,10,18 36:1,16,19 38:9,14 39:2,17,23 41:23 49:23 51:14 53:8 55:12,18,22 58:5,16 59:16,18,21 60:14,18 61:18 67:20 69:1,6,8 71:10 72:18 74:23 75:4 81:24,25 82:22 83:1,24 84:4,14 85:5 86:3 87:4, 19 88:5 97:12	patented 37:25	percentages 87:15,16	potential 40:9 102:14
paragraphs 24:8,13,21 25:1 28:18, 23 31:9,10,14 36:22 37:3,7,12 43:14 44:16 75:15 76:12 82:20 109:11	patents 15:6 21:3,4,7,11 22:13, 16,21,22 23:1,4,11 33:2 38:10,12 39:3,10,14 51:17,25 52:4,8,15,20	perform 47:17 54:9 69:20 78:3 88:19,24 89:5,15	potentially 25:4
parens 38:20	patient 62:3	performance 9:17,24 50:8 53:12 54:6 59:10,12	practice 38:22 40:2
parentheses 13:16	patients 23:6 27:2,25 28:25 29:12 31:24 46:24 47:10,22 67:14,16 68:1, 6,7,10,13,15,16,19,21, 22,24 69:3,4,5,7,10,11, 13,14,17,18,25 70:7,8, 10,11,23 71:1,5,6 72:13 80:3,6,11,20 81:3,12, 15,21 84:10 85:13,25	performed 42:13 54:18 88:16 93:19	practices 83:17
Parkinson's-induced 95:21		performing 68:10 79:17	practicing 43:22 44:3
Parkinson's-related 95:17,20		period 72:10 73:9 84:22	precise 17:2
part 11:22 35:14 39:12		person 106:4 110:22 112:1	predate 33:3
		perspective 101:2	predating 57:9
		Ph.d. 4:4	prefer 83:25
		pharmaceutical	premise

91:25 prepare 12:25 110:19,25 111:3, 6,7,14,18,22 112:2,6,13 113:25 prepared 13:2 68:11 preparing 25:18,19,24 45:12,16 113:24 prescription 89:2,10 present 26:21 113:20 presents 60:20 president 27:21 Preston 102:5,7 113:1 prevents 38:22 40:2 previously 39:8 55:15 57:19 58:2 99:21 pricing 53:20 54:1 primarily 14:7 112:25 primary 94:17 104:2 106:4 principles 37:5 prior 18:17 19:2 20:1 56:13 57:3 58:7,18,21,25 59:4 65:11 66:3 89:2,10 91:9 97:2,21,23 98:4,13 99:4,13 problem 21:9 proceeding 5:3 20:20 114:14 proceedings 97:15	process 106:12 107:10,12,23,24 108:6,13 produced 12:18 62:1,2,18 product 38:1,16 40:6 65:23 94:21 103:11 products 30:18 41:5,8,16 77:15 80:2,6,25 91:12,14 94:6 95:3,25 products' 77:12 professional 90:3 101:3,13,16 profits 40:17 50:19 67:24 program 27:23 projects 96:24 105:11 promotional 53:22 proofing 106:16 proofreading 106:12 property 90:13,15 provide 11:21 19:14 24:9 28:19 31:17 32:10 36:14,23, 25 39:22 68:5 74:19 78:1,4 91:22 101:11 112:11 provided 10:2 14:5 22:1,5 23:13 25:8 35:15 37:15 55:5,6 94:14 96:14 97:22 98:9, 14 99:5 107:14 providing 10:19 11:17 15:16 34:4, 14 47:5 51:2,9 62:8 108:15 109:25 110:4,7, 10,14	psychosis 95:17,21 public 12:17 14:8 22:19 28:6, 14 30:17 98:11 publicly 21:13,16 73:25 74:1 98:10 published 55:16 56:7 58:3 pull 34:18 purported 19:15 purpose 80:7 purposes 48:6 70:18 put 107:16,21 Q Q1 72:2 85:3 Q2 71:14,18 72:2,7,9,11,12 73:7 74:15 84:19 85:9, 19 86:16 Q3 27:20 72:1,8 83:3 85:3 Q4 71:14,22 72:1,8,11 74:16,20 quantification 50:18,19,20 54:4,19 quantified 64:5 81:14,22 quantify 46:15 81:1,10 quantifying 54:11 quantitative 42:14 50:22 54:16 quarter 72:17 85:2	quarters 72:9 question 6:4,7,9 7:24 27:11 31:13 46:20 47:2 51:23 57:12 69:20 91:25 92:4 questions 5:4 11:21 21:23 73:21 114:5,9 quick 34:19 35:16 quickly 15:20 quote 27:22 29:1 67:19 74:23 76:6 86:2,5 quoting 76:11 R raised 73:20 raises 73:20 range 54:22 72:10 73:9 rate 69:13 88:14,22 105:3,7, 9,13 rates 106:19 Ratliff 102:5,8,22 113:1,18 reached 62:23 read 19:10 25:10 32:18 38:14,24 39:6,8,24 41:24 45:8,19,21 46:1 49:25 53:9 55:13 60:19 63:15 67:21 86:3 88:7 97:12 reading 28:6 36:6 55:23 58:5 59:17 ready
---	---	--	--

35:23	references 58:7, 19, 21, 25 59:5	16:2, 3 42:9 84:8 97:5 105:24 108:14	5:2
real 34:19 35:16	referencing 29:21	relies 19:11	represented 91:16
reason 6:21 38:19	referred 40:3 95:24	rely 14:15, 22 15:25 52:3 78:9, 11, 22, 25 79:11 82:14 97:2	representing 44:22
rebut 42:14 83:25	referring 7:7, 11, 15 44:6 53:17 56:10 62:25 72:20 76:25 88:25 98:25 104:14	relying 15:17 23:21 44:11, 17 57:17, 22, 23 58:14 83:2 85:1, 6 109:18	request 66:10
rebuttal 10:3, 20	refers 75:8	remained 84:21	research 37:16, 23 39:11, 14 54:10 72:24 101:6, 19 107:20
rebutted 42:24	reflect 37:4	remember 18:16 95:7 101:25	researchers 100:8, 10
rebutting 60:10 110:8, 11, 15	reflected 55:9, 10 64:8 73:1	remotely 110:21	respect 30:15 62:18
recall 14:24 15:3 17:2, 10 18:9, 18, 19 19:20 20:11 26:7 28:6, 15 32:12 36:6 45:5, 9 46:5, 8, 11 49:13 70:1 95:2, 14 96:7, 25 102:3, 4, 13 104:6, 8 109:3, 12, 15, 16 111:24	regimens 28:24 29:4, 7, 11	removed 73:18	respond 10:21
receive 13:22	relate 33:3 50:14 54:16	rendering 13:9	responding 10:12, 16
received 65:8 103:18 108:22 109:9	related 18:5 19:3, 6, 17 20:2 33:22 37:17 39:2, 14 50:17 51:3, 10 52:24 53:23 54:1, 13 57:3 60:4 90:13, 25 91:10 95:9, 20 96:10, 14, 19, 25 110:1	repair 7:12 17:8 32:5	responds 9:11
receiving 68:21 80:20 81:21 85:13, 25 86:15 87:11	relates 11:3 36:15 50:7, 25 51:5 107:18	repeat 31:13 85:16	response 88:4
recess 48:22 82:6	relating 39:10 78:1	repeated 44:7	responses 11:22
recollection 20:4 44:12, 17 45:14, 22	relation 52:14 56:14 103:3	rephrase 113:7	responsible 37:25
recommended 30:9 75:16	relationship 37:9 100:4	report 10:2 12:2, 19, 23 18:18 23:18 25:3 36:1 44:4 49:8, 15, 24 50:17 60:11 61:8, 11, 14 64:4 67:20 68:25 70:22 74:12 75:12 82:21 91:3, 10 92:18 93:11 97:23 106:8	results 10:10 51:11 77:16
record 48:20 55:16, 25 56:3, 4, 6, 24 57:5, 16, 22 58:3, 6, 10, 12, 17 82:4 114:18	relative 55:1 77:12	REPORTER 85:15	retained 98:21 99:14 102:2, 17 103:2
refer 38:13 55:19 58:17	relevant 67:1 68:3 101:16 108:11	reporting 68:12	revenue 61:20, 24, 25
reference 28:4 34:19	reliable 83:7, 18	reports 14:12 94:13 97:22	revenue-generating 63:14
referenced 26:11 27:21 28:16 29:6 64:13	relied 10:18 12:20 13:4, 20	represent	review 15:10 28:14 35:10 58:9 83:25 107:13, 15 108:8, 20 109:6 112:17
			reviewed 12:20 13:3, 20 14:4, 18 15:12 16:13 35:13, 15, 19 36:7, 9 39:7 43:9 45:18 61:23, 25 62:1, 20 82:18 108:25 109:14, 21

111:8	science 17:7, 13, 15, 19 18:5	59:11 60:7, 11, 20 61:1, 8 62:7 64:4 68:18 71:17 73:6, 15 74:11 80:23 84:1, 15 87:14 89:6 109:23	single 93:10
reviewing 14:24 112:5, 12	sciences 90:16 97:7, 8 103:11, 19, 24	selling 63:11	sitting 17:11 18:8 28:9 30:25 32:12 79:16 109:2
Richard 19:12	scientific 20:20 23:20 27:11 69:19	send 108:7	skimmed 15:20
Richardson 5:2	scientist 20:13, 15	sense 77:15 93:6	Skin 95:15
rights 90:14, 15	scope 23:10 41:9 52:9, 21 95:5 96:6	sentence 19:9 36:16 49:24 55:18 60:18	slightly 60:3
role 108:3	screen 21:20	September 64:24 65:3, 15	slope 74:14
room 8:4	SEAN 4:4	served 90:17 92:17 97:24	small 90:23 91:1 93:24
rows 72:2	search 49:14 73:5 74:18 100:23	share 50:21 68:3, 15 81:5, 8, 10 84:6 88:9 98:24	sold 80:7
rules 5:8	searched 73:24	shares 81:1, 18	solely 37:25
run 27:3, 16 102:15	SEC 41:21 83:11, 22	Sheridan 4:4, 24 6:3 9:10 12:15 20:12, 16 35:10, 23 40:20 43:7 48:15, 25 49:4 50:5 77:19 82:9, 13 85:19 89:24 90:6 97:19 101:23 107:10 114:9, 17	Soligenix 93:1
S			
sake 7:18	secondary 11:1 60:22 61:5, 10, 15	showing 26:18 63:22 65:5, 14	sooner 6:18 40:7
salaried 104:24	secret 91:19	shows 63:24 64:2 68:14 87:21	sort 15:20 47:3, 16 54:21 69:19 74:2, 14, 18 94:17
sales 40:17 42:18 43:20 49:6, 16 50:18 54:15, 20 61:20, 23 62:4, 9, 10, 15, 18, 19, 23 63:1, 6, 8, 10, 23 64:1, 2, 6, 10, 13, 15, 22 65:6, 7, 10, 17, 22 66:2, 14, 17, 22, 24 67:1, 7, 12, 15, 24 68:3 73:19 74:3, 7 76:23 77:3, 8 84:2, 9, 12, 13 86:8, 24	section 23:18 53:18 68:25 72:7 91:5	side 65:5 91:16	sorts 17:19 78:2
schedule 12:14, 25 13:5, 7 14:6, 12 15:5 20:24 22:18 23:5 24:18, 22 26:12, 13 63:5, 17, 21, 22 64:9, 15, 17 65:20 67:3, 10 68:12, 14, 25 70:21 81:23	sections 72:6 107:18, 19	sign 11:13	sounds 6:16 27:10 34:11
schedules 106:9 107:22	Segers 10:1, 4, 18, 22 19:11 42:11, 17 43:1, 18 44:13, 22 45:2 46:9 49:5 50:15 53:4, 10 60:1 66:9, 21 67:15, 19 68:9 80:14, 18 82:19 84:8 85:22 86:4 87:9 88:4, 8 110:2, 5 111:11, 12	signature 11:10 109:4, 14	source 28:3 83:14
school 90:4	Segers' 8:14, 23 9:3, 8, 11 10:2, 17 41:25 42:7, 15 43:3, 4, 6, 9 44:5, 17, 21 45:13, 22 46:9, 13 49:18 50:16	signed 108:19, 20, 22	sources 24:17 25:5
		significant 76:23 77:12	space 103:12
		similar 46:12 92:2	speak 25:17, 24
			speaking 25:14 26:8 40:22 76:18
			specific 46:3 49:12, 13 102:14 104:8
			specifically 49:15 76:4 81:18

specification 15:20	15 32:14 49:8,12,13 50:16 75:20 82:14,18 83:3,6,21	suggesting 42:22	35:18 38:4 75:6 76:19, 21 77:3 90:23 113:4
specifics 46:5,8 96:8	states 42:17 67:20 87:19	summarize 31:11	talks 76:22
spend 15:2,19 112:5	stating 73:12	summarized 31:15 63:5 82:20	tasks 107:21
spends 107:7	strategy 78:2	summarizes 11:19	tech 101:16
spent 15:12 104:10 106:23 107:1 112:12,19 113:23	studies 27:24 28:7,11,15	summarizing 26:19	technical 15:17 47:4,6,16,17 48:9,10 52:3
spillover 54:21	study 55:16,24 56:3,4,6,24 57:5,16,22 58:3,6,9,11, 17	summary 37:8	technology 18:5 40:6 101:1,2,12
spoke 16:14	subject 33:7 45:6	sums 111:16	ten 48:16
Squibb 86:5	submitted 14:25 91:3,10 92:18 93:11 108:24 109:7,22 110:16	support 13:2 14:9 26:13 38:16 73:6 74:4 89:8 105:19, 20 106:2 107:7,15,20	ten-minute 82:3
staff 13:2 14:9 105:19,21 106:2,7,15 107:7,15,20 111:17	submitting 18:17 109:10	supported 43:1 73:8 79:21,24 89:7	Tennessee 100:23 101:5,19
staff's 104:15	subpart 88:6	supports 43:3	term 7:6,10,14
standard 36:24 105:6,9,13	subparts 87:5	sworn 4:5	terminology 7:4
start 5:7 16:25 65:18 104:4	subsequent 84:22	T	terms 62:7 63:13
started 40:24	substance 49:1 51:21 82:10	Tab 12:9,13 68:11 89:25	testified 4:6 10:18 73:16
starting 26:20 65:3 72:1 89:17 93:9	substantial 25:21 67:25 68:2 69:12 71:5	table 8:12	testify 112:13
starts 12:10	success 9:12 11:3,4 36:24 37:2, 5,9,18,21 38:1,6,16 49:9,20 50:1 53:5 59:24 60:5,7 61:2,5,10,16 66:17,20,22 67:18 71:7 75:4 91:20 94:10,14,16, 20,22 95:4,25 96:4	tables 107:22	testifying 105:14
state 12:19 32:1,18 39:17 41:24 53:8 55:12 60:19 75:15 88:7	successful 67:24 77:4,18	tabs 8:17,21,24	testimony 5:19,23 6:23 42:5,10 43:14 44:7,21,25 45:6, 11,14,20,22 46:2,3 49:1 73:12,16 82:10 92:19 93:12 101:20 111:15, 19,22 112:3,7 113:24 114:1
stated 27:22 43:18 46:11 74:1 75:4 76:13	suffer 83:21	talk 16:20,22 17:1,4,15,21 18:11,23 19:21 31:3 34:15 40:19 45:3 59:9 69:22 107:12	therapies 30:2
statement 35:25 42:4,6 43:3,25 53:16 77:10		talked 16:17 17:12,17,25 18:4, 25 19:18,25 20:9 80:15	thereof 17:9
statements 10:21 13:16 25:2 28:7,		talking	thing 106:10 107:22 108:12

things 10:3 17:7 18:25 50:19, 20 75:1 78:1 thinking 99:2 thoughtful 79:19 tie 10:22,23 time 15:3,13,19 16:23 17:5 21:10 25:12 35:5,17 42:19 57:9 73:9 74:13 89:16,17 104:14,15,16, 18 106:22 107:1,8 111:24 112:12,19 113:14,23,25 114:17 times 16:20 90:20 91:16 94:12,24 99:12 title 75:3 titled 51:17 92:15 today 4:15,17 5:5,16,24 6:23, 25 7:5 110:20,25 111:3, 7,15,19,22 112:3,7,13 113:24 114:10 told 20:9 48:14 top 34:23 45:9 topic 54:17 topical 95:14 topics 14:3 17:10 18:9 108:10 total 54:11 62:19 63:5,22 64:5,6,10 65:6,7,22 66:13 67:6,11 68:15,16 70:17,22,25 73:19 105:1 totaling 64:21	totalling 64:24 touched 17:23 trade 91:19 transcript 43:10 45:8,19 85:7 114:15 transfer 101:1,2,12,16 treat 29:5,7 30:4 31:24 44:2 56:8 80:5,16 92:7 93:6 treating 17:18 18:6 23:6 32:3 49:10 50:2 67:22 treatment 24:3 30:20,23 31:5,8 33:9 47:15 53:13 54:7 59:13,23 67:17 68:1 75:17 76:15 87:17 89:3 95:10,11,14,15,18,21 treatments 28:20 47:22 80:14 trial 27:7,12 92:19 trials 27:3 truth 5:13,14 truthful 5:23 6:22 tumor 28:1 turn 11:8 12:9 53:2 64:16 72:18 87:3 type 28:24 types 28:2 29:10 91:13 typical 107:12,23 113:24 typically 93:25 94:1 107:6	typos 12:2,3,5 U U.S. 38:20 39:25 62:19 63:6, 22 64:1,2,6,10,14 65:6, 7,17,22 66:13 67:7,11 68:15,16 70:23 71:1 ultimately 81:20 undergoing 67:17 68:1 underlying 37:5 59:11 undermines 88:20 understand 5:9,12,18,22 6:4 7:7,11, 15 10:17 19:13 29:20 31:22 32:2,19,24 33:8, 13,15,25 34:8 38:15 39:25 46:19 47:2,14,20 48:9,11 49:4 53:19 55:14 57:11,12 61:9 67:15 70:13 83:20 93:8 98:16 understanding 15:22,24 16:1,5,11 23:1 24:5,12,20,25 25:13 31:18 32:7,10,16 33:2 36:14,17 37:1,4,8,24 38:8,25 42:9 47:25 49:17,22 55:4,8 56:12, 18 57:17,24 58:1,15 59:4 70:9 76:1 80:4 83:16 85:23 87:8 103:15 110:6 understands 44:1 understood 6:8 43:19 unexpected 10:9 51:11 University 100:23 101:5,18 unlike 93:23	unsupported 42:1 43:5 uptake 89:16 V vaccines 91:11 variety 10:3 11:20 54:15 version 49:14 versus 7:23 65:4 92:24 93:1 100:24 105:14 vice 27:21 view 23:21 W wanted 13:25 41:12,15 website 21:13,17 22:15 41:22 week 18:17 110:22 112:18,19 weeks 18:21 104:18 well-known 103:11 white 72:20,23 73:2 74:22 76:12 77:8,11 word 83:25 words 33:5 42:20 65:16 work 20:14 34:17 35:2,4 42:15 60:7 77:24,25 78:7,12 82:13 94:8 96:13 102:17,21,23 103:10 104:21,23,25 105:10,18 106:3,16
---	---	---	--

111:18	24 113:17 114:8	
worked 37:21 48:3,6 93:10 96:16,20 97:18,19 98:5, 13 99:4,9,20	Zoom 22:7	
working 40:24 97:6,9 99:22 103:6 104:4,10 105:3, 14		
world 27:24		
world's 63:11		
writing 107:11		
Y		
year 63:23 65:8,11,23 67:3,6 70:25 88:16,17		
years 63:24		
Yervoy 84:1,9 85:14 86:1,8,16, 24		
yesterday 110:23 112:2 113:5,8, 16,21		
Yung 110:16		
Z		
Zeilberger 4:8,12,13 8:6 9:18 10:15 21:5 23:8,16 26:1 27:5,18 29:18 30:24 31:25 33:17 34:2 35:12, 21 38:2 40:14 41:1,9,14 43:24 44:19 45:24 46:18,25 47:11,24 48:14 49:21 50:9 51:1 52:9,16,21 54:8 57:6,20 60:9 61:7 62:12,16,24 63:12 67:9 71:16 76:10 77:21 78:14,19 79:2,7, 13 83:8 86:17 87:13 89:14 93:16 95:5 96:6 98:1 103:14,25 112:14,		