

1 that hinders receptor interaction. Care must be
2 taken to maximize the benefits of pegylation without
3 compromising therapeutic activity." Did you write
4 that statement?

5 A. Yes, I did.

6 Q. And did you believe it to be accurate at
7 the time you published this paper?

8 A. Yes, I did.

9 Q. Did you ever retract anything in this
10 paper?

11 A. No, I didn't.

12 Q. Did this paper undergo the internal Amgen
13 review before it was published?

14 A. Yes, it did.

15 Q. And this is an article in Anti-Cancer
16 Drugs, is it not?

17 A. That's correct.

18 Q. Was this article peer reviewed before it
19 was published?

20 A. I don't recall.

21 Q. Do you know what the standards are for
22 publishing papers in Anti-Cancer Drugs?

23 MR. GAEDE: Objection; calls for
24 speculation. Vague and ambiguous.

25 THE WITNESS: No, I don't.

1 Q. BY MR. JAGOE: I marked this as Molineux
2 Exhibit 6. Do you recognize Molineux Exhibit 6 as a
3 scientific publication that you authored?

4 MR. GAEDE: Should we identify for the
5 record what the title of this is so we know what it
6 is and the pages? You're not identifying these
7 exhibits for the record.

8 MR. JAGOE: I think they're going to be
9 exhibits to the transcript.

10 MR. GAEDE: Well --

11 MR. JAGOE: You can take your time to
12 identify them later if you want.

13 MR. GAEDE: You're going to refuse to
14 identify what the exhibit is for the record so the
15 record is going to be vague.

16 MR. JAGOE: Read my question back, please.

17 MR. GAEDE: I object to counsel refusing to
18 identify an exhibit for the record. That's improper
19 questioning.

20 (Question Read)

21 THE WITNESS: Yes.

22 Q. BY MR. JAGOE: You authored it as an Amgen
23 employee?

24 A. Yes.

25 Q. Did this undergo the internal Amgen review

1 targeting effects of alpha and epsilon amines on
2 EPO.

3 Q. BY MR. JAGOE: But when you wrote the
4 statement in this publication in 2004, you meant it
5 to be accurate, right?

6 A. Yes, I did.

7 Q. Was this article peer reviewed?

8 A. I think it was.

9 Q. Do you have any of the comments from the
10 peer reviewers in your files?

11 MR. GAEDE: You may answer that question
12 but again, this is an article on PEG rmetHuG-CSF
13 which is another pegylated compound. So you may
14 answer the question whether you have comments, but
15 further questioning on this, this is clearly a paper
16 on another compound.

17 THE WITNESS: No, I don't.

18 Q. BY MR. JAGOE: Marked this as Molineux
19 Exhibit 7. Is Molineux Exhibit 7 a paper that you
20 were co-author on along with other Amgen employees?

21 A. That's correct, yes.

22 MR. GAEDE: Just as a cautionary
23 instruction, we will get into specific questions,
24 you can answer some questions, but again, this paper
25 on its face relates to granulocyte colony

1 stimulating factor which is another compound and
2 megakaryocyte growth and development factor which is
3 another compound and it's clearly not an epoetin.
4 And counsel is, of course, aware of that fact. So
5 we'll proceed cautiously here.

6 Q. BY MR. JAGOE: Were you the primary author
7 on this article?

8 A. No.

9 Q. Who was the primary author?

10 A. Dr. Kinstler.

11 Q. Who is Dr. Kinstler?

12 A. Who is he? He's a colleague at Amgen.

13 Q. What is his position at Amgen?

14 A. I'm not familiar with his grade name.

15 Q. Do you know if he's a biologist or chemist

16 or medical doctor?

17 A. I would describe him as a chemist.

18 Q. Is he at a similar level that you are?

19 MR. GAEDE: Objection; vague.

20 Q. BY MR. JAGOE: In chemistry?

21 MR. GAEDE: Objection; vague and ambiguous.

22 Calls for speculation.

23 THE WITNESS: I don't know Olaf's title.

24 Q. BY MR. JAGOE: Did you review this document

25 before it was published?

1 A. Yes.

2 Q. And did it go through the Amgen internal
3 review process before it was published?

4 A. Yes.

5 Q. And do you believe the contents of this
6 article to be accurate?

7 A. Yes.

8 Q. Molineux Exhibit 8.

9 MR. GAEDE: Since counsel refuses to do so,
10 the title of Molineux Exhibit 8 is PEG rHuMGDF
11 Promotes Multilineage Hematopoietic Recovery in
12 Myelosuppressed Mice and, therefore, on its face is
13 clearly referring to a different compound.

14 Q. BY MR. JAGOE: Doctor, is Molineux Exhibit
15 8 a publication that you co-authored as an Amgen
16 employee?

17 A. Yes, it is.

18 Q. It was published in Experimental Hematology
19 in 1999?

20 A. Yes, it was.

21 Q. And at the time you wrote this, did you
22 believe it to be accurate?

23 A. Yes, I did.

24 Q. Did you -- did this publication undergo
25 internal Amgen review before it was published?

1 is vague and ambiguous. Calls for expert witness

2 testimony. Assumes facts not in evidence.

3 THE WITNESS: Are you asking me does it

4 stimulate hemoglobin?

5 Q. BY MR. JAGOE: I'm asking you if it has any

6 similar structural -- functional characteristics as

7 erythropoietin, to your knowledge?

8 MR. GAEDE: Objection. The question is

9 vague and ambiguous.

10 THE WITNESS: To the best of my knowledge,

11 it has nothing in common with EPO.

12 Q. BY MR. JAGOE: Does it stimulate the

13 formation of certain types of cells?

14 A. Yes, it does.

15 Q. What types of cells does it stimulate the

16 formation of?

17 A. Primarily, megakaryocytes.

18 MR. JAGOE: We have to change the tape. Go

19 off the record.

20 THE VIDEOGRAPHER: This marks the end of

21 Videotape No. 1, Volume I in the deposition of

22 Dr. Graham Molineux, we're going off the record.

23 The time is 11:09 A.M.

24 (Recess taken.)

25 THE VIDEOGRAPHER: This marks the beginning

1 of Videotape No. 2, Volume I in the deposition of
2 Dr. Graham Molineux and the time is 11:20 A.M.

3 Q. BY MR. JAGOE: I hand you a document marked
4 as Molineux Exhibit 9.

5 A. Thank you.

6 Q. Is this a scientific publication you made
7 in the Journal of Experimental Hematology in 1999?

8 MR. GAEDE: For the record, the title of
9 the scientific publication is "The prolonged
10 hematologic effects of a single injection of
11 PEG-rHuMGDF in normal and thrombocytopenic mice."

12 THE WITNESS: Yes, it is.

13 Q. BY MR. JAGOE: And you were an Amgen
14 employee when you submitted this?

15 A. Yes, I was.

16 Q. And did this undergo internal Amgen review
17 prior to publication?

18 A. Yes, it did.

19 MR. GAEDE: Again, this article is on a
20 specific compound other than pegylated EPO on the
21 face of the document and, questioning with respect
22 to this article is improper under the Court's order.

23 THE WITNESS: Yes, it did.

24 Q. BY MR. JAGOE: Was this article peer
25 reviewed prior to publication?

1 MR. GAEDE: Objection; calls for
2 speculation.

3 THE WITNESS: I think all manuscripts
4 submitted to this journal are peer reviewed.

5 Q. BY MR. JAGOE: Did you, at the time you
6 submitted it, intend it to be accurate and honest?

7 A. Yes.

8 MR. JAGOE: Am I correct that you're not
9 going to let me ask him any questions about the
10 specific pegylation technology used in this paper?

11 MR. GAEDE: That is correct, because as the
12 court said on January 3rd in denying your motion to
13 compel for discovery of material specifically that
14 relate to this compound in particular as well, the
15 case involves EPO including pegylated EPO, not other
16 pegylated compounds, and your motion to compel in
17 that respect was denied.

18 MR. JAGOE: I think that I should be able
19 to ask him general questions about the pegylation
20 technology used as long it doesn't go specifically
21 to a different pegylated compound.

22 MR. GAEDE: If you want to tie it to
23 PEG-EPO which is what you are permitted to do and
24 you tie it to PEG-EPO in your questioning, that's
25 fine. But you refuse to tie things to PEG-EPO and

1 you are speaking about pegylation technology in
2 respect to an article that on its face refers to
3 other pegylated compounds.

4 MR. JAGOE: But portions of the article are
5 general and not specific to any compound, PEG-EPO or
6 any other --

7 MR. GAEDE: We've been taking this on a
8 question-by-question basis. You can ask all the
9 questions you want. We have all day. If I believe
10 you're stepping across the lines of the Court's
11 order -- and I've given you great leeway here today
12 as well. You know, ask your question. I'm not
13 prohibiting you from asking any question you choose
14 to.

15 MR. JAGOE: You're instructing him not to
16 answer.

17 MR. GAEDE: Well, as appropriate because
18 you insist on questioning him on an article on a
19 different compound. Is there something unclear
20 about different compound? You're not going to ask
21 any more questions on Exhibit 9?

22 MR. JAGOE: No.

23 Q. BY MR. JAGOE: We're on Exhibit 10.
24 Dr. Molineux, is this a scientific publication that
25 you made in Experimental Hematology in 1999?

1 MR. GAEDE: For the record, the title of
2 this article is "A new form of Filgrastim with
3 sustained duration in vivo and enhanced ability to
4 mobilize PBPC in both mice and humans," and on its
5 face refers to a different compound.

6 THE WITNESS: Yes, it is.

7 Q. BY MR. JAGOE: And this is in the same
8 journal that the previous publication was made and
9 you said that was peer reviewed, correct?

10 A. That's correct.

11 Q. And was this publication made while you
12 were an Amgen employee?

13 A. Yes, it was.

14 Q. And did you review this article before it
15 was submitted?

16 A. Yes, I did.

17 Q. Did you believe it to be accurate at the
18 time you submitted it?

19 A. Yes, I did.

20 Q. Did it undergo internal Amgen review prior
21 to publication?

22 A. Yes, it did.

23 Q. And in the introduction, there is a
24 paragraph that says "studies have shown that
25 modification of various proteins by chemical

1 addition of polyethylene glycol can alter the
2 pharmacokinetic and pharmacodynamic properties of
3 the protein to significantly increase the time the
4 modified protein remains effective in the
5 circulation."

6 MR. GAEDE: I'm sorry. Where are you,
7 Counsel?

8 MR. JAGOE: In the introduction on the
9 third paragraph.

10 MR. GAEDE: I'm sorry. When you say
11 introduction and you just start reading, there is
12 five paragraphs. It's helpful if you just tell us
13 where we are so we can move along faster. We're on
14 the third paragraph. Okay.

15 Q. BY MR. JAGOE: Did you write that
16 statement?

17 A. Yes, I did.

18 Q. What did you mean by "modification of
19 various proteins by the chemical addition of
20 polyethylene glycol"?

21 MR. GAEDE: Again, I understand this is
22 questioning that is relevant to PEG erythropoietin.
23 You may answer the question.

24 THE WITNESS: In the specific case of EPO,
25 I can't answer the specific question. This was a

1 generic comment about adding PEG by chemical means
2 to various proteins.

3 Q. BY MR. JAGOE: I just want to know what you
4 mean generically in your publication, what you meant
5 by the chemical addition?

6 A. I see.

7 MR. GAEDE: You may answer.

8 THE WITNESS: By chemically attaching the
9 polyethylene glycol to a mature protein.

10 Q. BY MR. JAGOE: By chemically attaching it,
11 that means there is a chemical reaction that goes
12 on?

13 A. Yes.

14 Q. Chemical reaction breaks bonds and creates
15 new bonds?

16 MR. GAEDE: Objection; vague and ambiguous.
17 Calls for expert witness testimony.

18 THE WITNESS: It's my understanding
19 chemical reaction involves the making and breaking
20 of chemical bonds, yes.

21 Q. BY MR. JAGOE: Is the product of a chemical
22 reaction a new chemical?

23 MR. GAEDE: Objection; calls for expert
24 witness testimony. Incomplete hypothetical.
25 Assumes facts not in evidence. Lacks foundation.

1 Vague and ambiguous.

2 THE WITNESS: The product of the reaction

3 could be said to have not existed before, but that

4 doesn't mean it's new or novel.

5 Q. It's new compared to the starting

6 materials?

7 A. It's different.

8 Q. Different compared to the starting

9 materials used in the chemical reaction?

10 A. So salt is not the same as sodium and

11 chloride. That's absolutely true.

12 Q. When a protein is modified by the chemical

13 addition of polyethylene glycol, that protein is

14 changed, right?

15 MR. GAEDE: Objection; vague and ambiguous.

16 Assumes facts not in evidence. Calls for expert

17 witness testimony. Incomplete hypothetical.

18 THE WITNESS: Chemically conjugating a

19 protein would in general change its properties.

20 Q. BY MR. JAGOE: Would change the chemical

21 structure?

22 MR. GAEDE: Same objections. Go ahead.

23 THE WITNESS: Not of the protein itself.

24 You wouldn't alter the amino acid structure. You

25 would add something onto the side.

1 Q. BY MR. JAGOE: There would also be
2 something missing, right?

3 MR. GAEDE: Objection; vague and ambiguous.
4 Incomplete hypothetical. Calls for speculation.
5 Calls for expert witness testimony.

6 THE WITNESS: There could be something as
7 minor as a proton missing, yes.

8 Q. BY MR. JAGOE: There would have to be at
9 least something missing, right?

10 A. I don't know.

11 Q. This is Molineux Exhibit 11.

12 A. Thank you.

13 Q. Is Molineux Exhibit 11 an article that you
14 published in Clinical Cancer Research in July of
15 2001?

16 MR. GAEDE: Again, since counsel refuses to
17 identify exhibits for the record, it is entitled
18 "Kinetics of Neutrophil Production in Normal and
19 Neutropenic Animals During the Response to
20 Filgrastim, r-metHu G-CSF or Filgrastim SD/01,
21 PEG-r-metHu G-CSF. Therefore, the document on its
22 face calls for another compound, a different
23 compound than EPO or pegylated EPO.

24 THE WITNESS: I was a co-author on that
25 paper, yes, the first author was Brian Lord.

1 Q. BY MR. JAGOE: Who is Brian Lord?

2 A. Brian Lord is an investigator at the

3 institute where I used to work.

4 Q. You were collaborating with him on this

5 paper?

6 A. That's correct, yes.

7 Q. Did this paper undergo internal Amgen

8 review?

9 A. Yes, it did.

10 Q. And was this article peer reviewed before

11 it was published?

12 A. Yes, it was.

13 Q. And did you -- did you believe it to be

14 accurate at the time that you submitted it for

15 publication?

16 A. Yes, I did.

17 Q. This will be Molineux Exhibit 12.

18 A. Thank you.

19 MR. GAEDE: Exhibit 12, since I assume

20 counsel won't identify it, is an article entitled

21 "Efficient mobilization of haemotopoietic

22 progenitors after a single injection of pegylated

23 recombinant human granulocyte colony-stimulating

24 factor in mouse strains with distinct marrow-cell

25 pool sizes."

1 Q. BY MR. JAGOE: Is this a publication that
2 you made in the British Journal of Hematology in
3 2000?

4 A. I was a co-author on this paper. Gerald
5 Haan was the first author.

6 Q. You were an employee of Amgen at the time?

7 A. Yes, I was.

8 Q. You collaborated with these other authors
9 on the work that's described here?

10 A. That's correct, yeah.

11 Q. Did this paper undergo internal Amgen
12 review before it was published?

13 A. Yes, it did.

14 Q. Was this article peer reviewed?

15 A. Yes, it was.

16 Q. And at the time that you wrote this
17 article, did you believe it to be a correct and
18 accurate representation of what's disclosed?

19 A. Yes, I did.

20 Q. Do you have any knowledge of the effects of
21 pegylation on erythropoietin?

22 MR. GAEDE: Objection. The question as
23 phrased is vague and ambiguous.

24 THE WITNESS: I've seen reports from Roche
25 on the claimed differences, yes.