

**Food and Drug Administration
Center for Drug Evaluation and Research**

**Summary Minutes of the Oncologic Drugs Advisory Committee
May 25, 2017**

Location: FDA White Oak Campus, 10903 New Hampshire Avenue, Building 31 Conference Center, the Great Room (Rm. 1503), Silver Spring, Maryland.

Topic: The committee discussed biologics license application (BLA) 125545 for a proposed biosimilar to Amgen Inc.'s Epogen/Procrit (epoetin alfa), submitted by Hospira Inc., a Pfizer company. The proposed indications (uses) for this product are (1) for the treatment of anemia due to chronic kidney disease (CKD), including patients on dialysis and not on dialysis to decrease the need for red blood cell (RBC) transfusion, (2) for the treatment of anemia due to zidovudine administered at $\leq 4,200$ mg/week in HIV-infected patients with endogenous serum erythropoietin levels of ≤ 500 mUnits/mL, (3) for the treatment of anemia in patients with non-myeloid malignancies where anemia is due to the effect of concomitant myelosuppressive chemotherapy, and upon initiation, there is a minimum of two additional months of planned chemotherapy, and (4) to reduce the need for allogeneic RBC transfusions among patients with perioperative hemoglobin > 10 to < 13 g/dL who are at high risk for perioperative blood loss from elective, noncardiac, nonvascular surgery.

These summary minutes for the May 25, 2017, meeting of the Oncologic Drugs Advisory Committee of the Food and Drug Administration were approved on June 28, 2017.

I certify that I attended the May 25, 2017, meeting of the Oncologic Drugs Advisory Committee of the Food and Drug Administration and that these minutes accurately reflect what transpired.

/S/

Lauren D. Tesh, PharmD, BCPS
Designated Federal Officer, ODAC

/S/

Brian I. Rini, MD, FACP
Acting Chairperson, ODAC

Summary Minutes
Oncologic Drugs Advisory Committee Meeting
May 25, 2017

The following is the final report of the Oncologic Drugs Advisory Committee (ODAC) meeting held on May 25, 2017. A verbatim transcript will be available in approximately six weeks, sent to the Office of Hematology and Oncology Products and posted on the FDA website at: <https://www.fda.gov/AdvisoryCommittees/CommitteesMeetingMaterials/Drugs/OncologicDrugsAdvisoryCommittee/ucm547155.htm>

All external requests for the meeting transcript should be submitted to the CDER Freedom of Information Office.

The Oncologic Drugs Advisory Committee (ODAC) of the Food and Drug Administration, Center for Drug Evaluation and Research met on May 25, 2017 at the FDA White Oak Campus, Building 31 Conference Center, The Great Room, 10903 New Hampshire Avenue, Silver Spring, Maryland. Prior to the meeting, members and temporary voting members were provided copies of the briefing materials from the FDA and the Sponsor, Hospira Inc., a Pfizer company. The meeting was called to order by Brian I. Rini, MD, FACP (Acting Chairperson). The conflict of interest statement was read into the record by Lauren D. Tesh, PharmD, BCPS (Designated Federal Officer). There were approximately 150 people in attendance. There were five Open Public Hearing speakers.

Issue: The committee discussed biologics license application (BLA) 125545 for a proposed biosimilar to Amgen Inc.'s Epogen/Procrit (epoetin alfa), submitted by Hospira Inc., a Pfizer company. The proposed indications (uses) for this product are (1) for the treatment of anemia due to chronic kidney disease (CKD), including patients on dialysis and not on dialysis to decrease the need for red blood cell (RBC) transfusion, (2) for the treatment of anemia due to zidovudine administered at $\leq 4,200$ mg/week in HIV-infected patients with endogenous serum erythropoietin levels of ≤ 500 mUnits/mL, (3) for the treatment of anemia in patients with non-myeloid malignancies where anemia is due to the effect of concomitant myelosuppressive chemotherapy, and upon initiation, there is a minimum of two additional months of planned chemotherapy, and (4) to reduce the need for allogeneic RBC transfusions among patients with perioperative hemoglobin > 10 to < 13 g/dL who are at high risk for perioperative blood loss from elective, noncardiac, nonvascular surgery.

Attendance:

ODAC Members Present (Voting): Bernard F. Cole, PhD; Heidi D. Klepin, MD, MS; Grzegorz S. Nowakowski, MD; Courtney J. Preusse, MA (Consumer Representative); Gregory J. Riely, MD, PhD; Brian I. Rini, MD, FACP (Acting Chairperson); Thomas S. Uldrick, MD, MS

ODAC Members Not Present (Voting): Harold J. Burstein, MD, PhD; Alberto S. Pappo, MD; Vassiliki A. Papadimitrakopoulou, MD; Alice T. Shaw, MD, PhD; Bruce J. Roth, MD

ODAC Members Not Present (Non-Voting): Phuong Khanh (P.K.) Morrow, MD, FACP
(Industry Representative)

Temporary Members (Voting): Karen E. Arscott, DO, MSc (Patient Representative); Steven M. Cramer, PhD; Michelle M. Estrella, MD; William S. Hancock, PhD; Adel Karara, BPharm, PhD, FCP; Julia B. Lewis, MD; Donald E. Mager, PharmD, PhD; Scott A. Waldman, MD, PhD, FCP, FAHA

Acting Industry Representative to the Committee (Non- Voting): Gary Gordon, MD, PhD

FDA Participants (Non-Voting): Ann Farrell, MD; R. Angelo de Claro, MD; Leah Christl, PhD; Emanuela Lacana, PhD; Susan Kirshner, PhD

Designated Federal Officer (Non-Voting): Lauren D. Tesh, PharmD, BCPS

Open Public Hearing Speakers: Mary Jo Carden, RPh, JD (Academy of Managed Care Pharmacy); Kathleen A. Arntsen (Lupus and Allied Diseases Association, ASBM and PBSA); Lawrence A. La Motte (IDF and Patients for Biologic Safety and Access); Thair Phillips (RetireSafe); Dennis R. Cryer, MD, FAHA (Biologics Prescribers Collaborative)

The agenda proceeded as follows:

Call to Order and Introduction of
Committee

Brian I. Rini, MD, FACP
Acting Chairperson, ODAC

Conflict of Interest Statement

Lauren Tesh, PharmD, BCPS
Designated Federal Officer, ODAC

351(k) Regulatory Pathway

Leah Christl, PhD
Associate Director for Therapeutic Biologics
Office of New Drugs (OND) Therapeutic Biologics and
Biosimilars Staff (TBBS), CDER, FDA

Clarifying Questions to the Presenter

Opening Remarks

R. Angelo de Claro, MD
Medical Officer Team Leader
Division of Hematology Products (DHP)
Office of Hematology and Oncology Products (OHOP)
Office of New Drugs (OND), CDER, FDA

APPLICANT PRESENTATIONS

Hospira Inc., a Pfizer company

Introduction to Epoetin Hospira –
Biosimilar to Epogen®/Procrit®

Sumant Ramachandra, MD, PhD
Senior VP, Research & Development Head
Pfizer Essential Health

Analytical Biosimilarity Assessment

Thomas Vanden Boom, PhD
VP, Biosimilars Pharmaceutical Sciences
Pfizer World Wide Research & Development

Nonclinical, Clinical Pharmacology
and Clinical Biosimilarity Assessment

Nancy Martin, MD, PharmD, FCP
Consultant, previously VP Clinical Development,
Biosimilars
Hospira, A Pfizer Company

Conclusion Supporting Biosimilarity and
Extrapolation Across Indications

Sumant Ramachandra, MD, PhD

FDA PRESENTATIONS

“Epoetin Hospira”, a proposed biosimilar
to US-licensed Epogen/Procrit - BLA
125545

Frances Namuswe, PhD
CMC Reviewer
Office of Biotechnology Products (OBP)
Office of Pharmaceutical Quality (OPQ), CDER, FDA

Chemistry, Manufacturing, and Controls
(CMC)

Chao Wang, PhD
CMC Statistical Reviewer
Division of Biometrics VI (DBVI)
Office of Biostatistics (OB)
Office of Translational Sciences (OTS), CDER, FDA

Pharmacology/Toxicology

Natalie Simpson, PhD
Pharmacology/Toxicology Reviewer
Division of Hematology Oncology Toxicology
OHOP, OND, CDER, FDA

Clinical Immunogenicity

Steven Bowen, PhD
Immunogenicity Reviewer
OBP, OPQ, CDER, FDA

Clinical Pharmacology

Vicky Hsu, PhD
Clinical Pharmacology Reviewer
Division of Clinical Pharmacology V
Office of Clinical Pharmacology, OTS, CDER, FDA

Clinical Efficacy

Lola Luo, PhD
Clinical Statistical Reviewer
Division of Biometrics V (DBV)
OB, OTS, CDER, FDA

Clinical Safety

Lori Ehrlich, MD, PhD
Medical Officer
DHP, OHOP, OND, CDER, FDA

BREAK

Clarifying Questions to the Presenters

Open Public Hearing

Questions to the Committee/Committee Discussion

ADJOURNMENT

Questions to the Committee:

1. **DISCUSSION:** Please discuss whether evidence from analytical studies supports a demonstration that “Epoetin Hospira” is highly similar to US-licensed Epogen/Procrit, notwithstanding minor differences in clinically inactive components.

Committee Discussion: The analytical chemistry experts on the panel agreed that evidence from analytical studies supports a demonstration that “Epoetin Hospira” is highly similar to US-licensed Epogen/Procrit, notwithstanding minor differences in clinically inactive components. Please see the transcript for details of the committee discussion.

2. **DISCUSSION:** Please discuss whether there are no clinically meaningful differences between “Epoetin Hospira” and US-licensed Epogen/Procrit based on the results from the clinical studies.

Committee Discussion: A panel member noted that the data presented was similar in clinical effects that could be measured and noted the sponsor presented convincing studies that supports a demonstration that there are no clinically meaningful differences between “Epoetin Hospira” and US-licensed Epogen/Procrit. Please see the transcript for details of the committee discussion.

3. **DISCUSSION:** Please discuss whether there is adequate scientific justification to support licensure for all of the proposed indications.

Committee Discussion: The committee agreed that the mechanism of action and similarity of PK/PD properties had been established. There were some residual concerns regarding the lack of direct immunogenicity data in patients with HIV and cancer. Please see the transcript for details of the committee discussion.

4. **VOTE:** Does the totality of the evidence support licensure of “Epoetin Hospira” as a biosimilar product to US-licensed Epogen/Procrit for the following indications for which US-licensed Epogen/Procrit is currently licensed and for which the Applicant is seeking licensure?

PROPOSED INDICATIONS FOR “EPOETIN HOSPIRA”:

- 1) for the treatment of anemia due to chronic kidney disease (CKD), including patients on dialysis and not on dialysis to decrease the need for red blood cell (RBC) transfusion
- 2) for the treatment of anemia due to zidovudine administered at ≤ 4200 mg/week in HIV-infected patients with endogenous serum erythropoietin levels of ≤ 500 mUnits/mL

- 3) for the treatment of anemia in patients with non-myeloid malignancies where anemia is due to the effect of concomitant myelosuppressive chemotherapy, and upon initiation, there is a minimum of two additional months of planned chemotherapy
- 4) to reduce the need for allogeneic RBC transfusions among patients with perioperative hemoglobin > 10 to ≤ 13 g/dL who are at high risk for perioperative blood loss from elective, noncardiac, nonvascular surgery

Please explain the reasons for your vote.

YES: 14 NO: 1 ABSTAIN: 0

Committee Discussion:

The majority of the committee voted in favor of the totality of the evidence supporting licensure of “Epoetin Hospira” as a biosimilar product to US-licensed Epogen/Procrit for the four indications for which US-licensed Epogen/Procrit is currently licensed and for which the Applicant is seeking licensure. The one member that voted “No” did not agree with approving “Epoetin Hospira” for the HIV and oncology indications. The member further noted that the basic safety data in these indications had not been established with this product as presented by the Applicant. Please see the transcript for details of the committee discussion.

The meeting was adjourned at approximately 11:40 a.m.