[Billing Code: 4150-31]

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Findings of Research Misconduct

AGENCY: Office of the Secretary, HHS.

ACTION: Notice.

SUMMARY: Notice is hereby given that the Office of Research Integrity (ORI) has taken final action in the following case:

Shane Mayack, Ph.D., Joslin Diabetes Center: Based on the report of an investigation conducted by the Joslin Diabetes Center (Joslin) and additional analysis conducted by ORI in its oversight review, ORI found that Dr. Shane Mayack, former postdoctoral fellow, Department of Developmental and Stem Cell Biology, Joslin, engaged in research misconduct in research supported by National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institutes of Health (NIH), grants T32 DK07260-29 and P30 DK036836 and the 2008 NIH Director's New Innovator Award Program grant DP2 OD004345-01.

ORI found that Respondent engaged in research misconduct involving two (2) published papers:

- Mayack, S.R., Shadrach, J.L., Kim, F.S., & Wagers, A.J. "Systemic signals regulate ageing and rejuventation of blood stem cell niches." *Nature* 463:495-500, 2010

- Mayack, S.R., & Wagers, A.J. "Osteolineage niche cells initiate hemotopoietic stem cell mobilization." *Blood* 112:519-531, 2008.

As a result of Joslin's investigation, both *Nature* 463:495-500, 2010 (hereafter referred to as the "*Nature* paper") and *Blood* 112:519-531, 2008 (hereafter referred to at the "*Blood* paper") have been retracted by the corresponding author.

Specifically, ORI found that:

- Respondent falsely represented von Kossa-stained bone nodule images in two (2) published papers:
    a. Figure 2B in the *Blood* paper was copied from an unrelated published experiment in Figure 3, J *Orth Surg Res* 1:7, 2006, and was used to falsely represent Respondent's own experiment for bone nodules formed in cultured osteoblastic niche cells
    b. Figure S2c in the *Nature* paper was copied from an online image for an unrelated experiment (at http://skeletalbiology.uchc.edu/30_ResearchProgram/304_gap/3042_Lineage%20in%20Vitro/3042_01_aCellCult.htm#mCOB) and was used to falsely represent Respondent's own experiment for bone nodules formed in osteoblastic niche cells from young and aged mice.

- Respondent falsely represented eight (8) flow cytometry contour plots as different experimental results by using identical plots but with different labels and different numerical percentages. Specifically, the following contour plots in the *Blood* paper, the *Nature* paper, an earlier version of the *Nature* paper submitted to *Science* (hereafter referred to as the "*Science* manuscript"), and a July 2008 PowerPoint presentation were identical but were labeled differently:
    a. panels 4 and 2 in Figure 6C, *Blood* paper, and panels 1 and 2, respectively, in supplementary Figure 3b, *Nature* paper
    b. panel 3 in Figure 6C, *Blood* paper, and panel 1 in Figure 2, July 2008 PowerPoint presentation
    c. panels 1 and 2, Figure 2b, *Science* manuscript, and panels 2 and 3, respectively, in Figure 2, July 2008 PowerPoint presentation
    d. panels 2, 3, and 4, supplemental Figure 4A, Blood paper, and panels 3, 1, and 2, respectively, in Figure 4B, *Science* manuscript

Both the Respondent and HHS want to conclude this matter without further expenditure of time or other resources and have entered into a Voluntary Settlement Agreement to resolve this matter. Respondent neither admits nor denies ORI's finding of research misconduct. This settlement does not constitute an admission of liability on the part of the Respondent. Dr. Mayack has voluntarily agreed:

(1) if within three (3) years from the effective date of the Agreement, Respondent

does receive or apply for U.S. Public Health Service (PHS) support, Respondent agrees to have her research supervised for a period of three (3) years beginning on the date of her employment in a research position in which she receives or applies for PHS support and to notify her employer(s)/ institution(s) of the terms of this supervision; Respondent agrees that prior to the submission of an application for PHS support for a research project on which the Respondent's participation is proposed and prior to Respondent's participation in any capacity on PHS-supported research, Respondent shall ensure that a plan for supervision of Respondent's duties is submitted to ORI for approval; the supervision plan must be designed to ensure the scientific integrity of Respondent's research contribution; Respondent agrees that she shall not participate in any PHS-supported research until such a supervision plan is submitted to and approved by ORI; Respondent agrees to maintain responsibility for compliance with the agreed upon supervision plan;

(2) if within three (3) years from the effective date of the Agreement, Respondent does receive or apply for PHS support, Respondent agrees that any institution employing her shall submit, in conjunction with each application for PHS funds, or report, manuscript, or abstract involving PHS-supported research in which Respondent is involved, a certification to ORI that the data provided by Respondent are based on actual experiments or are otherwise legitimately derived and that the data, procedures, and methodology are accurately reported in the

application, report, manuscript, or abstract; and

(3) to exclude herself voluntarily from serving in any advisory capacity to PHS including, but not limited to, service on any PHS advisory committee, board, and/or peer review committee, or as a consultant for a period of three (3) years, beginning on July 27, 2012.

FOR FURTHER INFORMATION CONTACT:

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John Dahlberg
Director
Division of Investigative Oversight
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