

Icahn Medical Institute

1425 Madison Ave, 13-20E

Box 1496

New York, NY 10029-6574

Phone: 212-659-8312

FAX: 212-803-6740

[kateri.moore@mssm.edu](mailto:kateri.moore@mssm.edu)

<http://drb.mssm.edu/labs/lm.html>

**Kateri A. Moore, D.V.M.**

Associate Professor

Department of Developmental and Regenerative Biology

Black Family Stem Cell Institute

March 21st, 2016

Dr. Nandita Singh

Editor

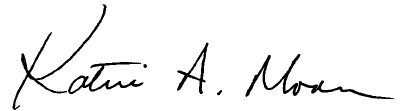
Journal of Visualized Experiments

Re: JoVE Submission

Dear Dr. Singh,

We are re-submitting “Reprogramming Mouse Embryonic Fibroblasts with Transcription Factors to Induce a Hemogenic Program” for your review. This revised submission describes the hemogenic induction protocol we have developed in mouse embryonic fibroblasts in order to develop alternative technologies for hematopoietic stem cell transplantation. This protocol is based on experiments described in Pereira et al, Cell Stem Cell, 2013. The protocol describes using mouse fibroblasts that are transduced with Doxycycline inducible lentivirus carrying transcription factors to reprogram them into hemogenic cells. The protocol was developed as a “proof of principle” that we can indeed essentially “kick start” a hemogenic program that will lead to hematopoietic cells that will eventually have an ability to be transplanted and replace the immuno-hematopoietic systems of patients in need of a bone marrow transplant. There is a need for alternative approaches as there are inadequate supplies of cord blood cells, bone marrow cells, or mobilized peripheral blood stem cells that are matched for allogeneic transplant. There is also a particular shortage of transplantable cells for certain ethnic groups. At least 20,000 hematopoietic stem cell transplants are performed every year. For these reasons there is a critical need for alternative approaches, including the protocol described in this resubmission. This edited manuscript contains the suggested edits from all revisions provided by the editor and the reviewers, which greatly improve the clarity and quality of the paper. The protocols are now more fully explained and the wording of the paper is stronger and more consistent.

Sincerely,



Kateri A. Moore