Manuscript type: Article

Title: MicroRNA Expression Profiles of Human iPS cells, Retinal Pigment Epithelium

derived from iPS, and Fetal Retinal Pigment Epithelium

Authors: Muniz, Alberto, Greene, Whitney A., Ramesh, Kaini R, Choi, Jae-Hyek and Wang, Heuy-Ching

Corresponding Author: Heuy-Ching Wang, PhD

Ocular Trauma

U.S. Army Institute of Surgical Research

3698 Chambers Pass Ave., Bldg 3610

JBSA Fort Sam Houston TX 78234-6315

Tel.: 210- 539-9692

E-mail: [heuy-ching.h.wang.civ@mail.mil](mailto:heuy-ching.h.wang.civ@mail.mil)

Explanation of manuscript significance:

The technology to derive retinal pigment epithelium (RPE) from induced-pluripotent

stem cells (iPS) shows great promise toward treatment of retinopathies by patient specific regenerative medicine. Indeed, a very recent Phase I clinical trial to establish the safety and tolerability of subretinal transplantation of human ES-derived retinal pigment epithelium in patients with Stargardt’s macular dystrophy and dry age-related macular degeneration showed no signs of hyperproliferation, tumorigenicity, ectopic tissue formation, or apparent rejection after 4 months One attractive approach for in vitro differentiation of ES/iPS cells is to make embryoid bodies (EBs) to simulate normal embryological development. The focus of this study is to characterize the influence of EBs size on the iPS-RPE differentiation process.

Sincerely yours,

Heuy-Ching Wang, PhD

Ocular Trauma

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