We claim:

1. A tissue replacement implant, comprising:

polarized retinal pigment epithelial cells on a poly(lactic-co-glycolic acid) (PLGA) scaffold, wherein the PLGA scaffold is 20-30 microns in thickness, has a DL-lactide/glycotide ratio of about 1:1, an average pore size of less than about 1 micron, and a fiber diameter of about 150 to about 650 nm.

2. The tissue replacement implant of claim 1, wherein the PLGA scaffold is coated with vitronectin.

3. The tissue replacement implant of claim 1 or claim 2, wherein the polarized retinal pigment epithelial cells are human polarized retinal pigment epithelial cells.

4. The tissue replacement implant of any one of claims 1-3, wherein the polarized retinal pigment epithelial cells are produced from induced pluripotent stem cells.

5. The tissue replacement implant of any one of claims 1-4, wherein the polarized retinal pigment epithelial cells are from a single subject.

6. The tissue replacement implant of claim 4, wherein the polarized retinal pigment epithelial cells are produced from induced pluripotent stem cells, and wherein the induced pluripotent stem cells are produced from CD34+ cells.

7. The tissue replacement implant of any one of claims 1-6, wherein the PLGA scaffold has an average pore size of more than 0.5 microns.

8. Use of the tissue replacement implant of any one of claims 1-7 in the preparation of a medicament for the treatment of a retinal degenerative disease, retinal or retinal pigment epithelium dysfunction, retinal degradation, retinal damage, physical injury to the retina, or loss of retinal pigment epithelium in a subject, wherein the medicament is to be locally administered to the eye of the subject, thereby treating the subject.

9. The use of claim 8, wherein the retina degenerative disease is Stargardt's macular dystrophy, retinitis pigmentosa, age related macular degeneration, glaucoma, diabetic retinopathy, Lebers congenital amaurosis, late-onset retinal degeneration, hereditary macular or retinal degeneration, Best disease, Sorsby's fundus dystrophy, retinal detachment, gyrate atrophy, traumatic eye injury, or choroideremia, pattern dystrophy.

10. The use of claim 8, wherein the retinal or retinal pigment epithelium damage is caused by laser, inflammatory, infectious, radiation, neovascular or traumatic injury.

11. The use of any one of claims 8-10, wherein the tissue replacement implant is introduced in a subretinal space of the eye, or outer retina, a retinal periphery, macula, or peri-macular regions, or within a choroid.

12. The use of any one of claims 8-11, wherein the subject is human.

13. The use of claim 12, wherein the subject has age related macular degeneration

14. A method of producing the tissue replacement implant of claim 1, comprising

a) obtaining PLGA coated with vitronectin or other extracellular matrix (ECM) proteins, wherein the PLGA scaffold comprises fibers that forming mesh structure and wherein the PLGA scaffold has an upper surface and a lower surface, wherein the PLGA scaffold is about 20- about 30 microns in thickness, has a DL-lactide/glycotide ratio of about 1:1, an average pore size of less than about 1 microns, and a fiber diameter of about 150 to about 650 nm;

b) treating the scaffold with heat to fuse fibers of the scaffold at the junctions of fiber intersections within the PLGA scaffold to increase mechanical strength of the PLGA scaffold & to reduce pore size;

c) seeding retinal pigment epithelial cells onto the PLGA scaffold at about 125,000 to about 500,000 cells per 12 mm diameter of PLGA scaffold; and

d) culturing the retinal pigment epithelial cells on the PLGA scaffold in a tissue culture medium *in vitro*, with medium present on both the upper surface and the lower surface of the PLGA scaffold, for a time that is sufficient for i) polarization of the retinal pigment epithelial cells and ii) bulk degradation of the PLGA scaffold,

thereby producing the tissue replacement implant.

15. The method of claim 14, wherein the retinal pigment epithelial cells are human polarized retinal pigment epithelial cells.

16. The method of claim 14 or claim 15, wherein the retinal pigment epithelial cells are cultured on the PLGA scaffold *in vitro* until peak lactic acid release is over from the PLGA scaffold.

17. The method of any one of claims 14-16, wherein the retinal pigment epithelial cells have a Trans-Epithelial Resistance (TER) above 200 Oms*cm^2.

18. The method of any one of claims 14-17, wherein step d) comprises culturing the retinal pigment epithelial cells on the PLGA scaffold in a tissue culture medium for about 3.5 to about 6 weeks.

19. The method of any one of claims 14-18, wherein the PLGA scaffold is coated with vitronectin.

20. The method of any one of claims 14-18, further comprising producing the retinal pigment epithelial cells from induced pluripotent stem cells prior to step c.

21. The method of claim 20, where the induced pluripotent stem cells are produced from CD34+ cells of the subject.

22. The method of any one of claims 14-20, wherein the retinal pigment epithelial cells are from a single subject.

23. The method of any one of claims 14-22, wherein the implant has an average pore size of less than 1 micron.

24. The tissue replacement implant of any one of claims 1-7, the use of any one of claims 8-11, or the method of any one of claims 14-23, wherein the PLGA scaffold is sterilized using an

electronic beam (e-beam).