SUPPLEMENTARY INFORMATION

The Effects of the Coating and Aging of Biodegradable Polylactic Acid Membranes on In Vitro Primary Human Retinal Pigment Epithelium Cells

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Table S1. Primers used for DNA damage and mtDNA-CN.		
Primers		
	Forward	**Reverse**
12S	*5′-AAA CTG CTG CTC GCC AGA-3′*	*5′-CAT GGG CTA CAC CTT GAC CT-3′*
NDUFA9	*5′-GCA AGG GTC CCT ATG AGA GAA-3′*	*5′-CAA GAA CGA GGG GAA AAG TG-3′*
PCR program		
Cycles	**Temperature (°C)**	**Time**
1x	65	15 min
1x	94	10 min
40x	94	10 s
	60	1 min

Table S2. Primers used for gene expression.		
	Forward	**Reverse**
BEST1 [14]	*5′-GAATTTGCAGGTGTCCCTGT-3′*	*5′-ATCCTCCTCGTCCTCCTG AT-3′*
RPE65 [25]	*5′-GCCCAGGAGCAGGACAAAAG-3′*	*5′-GCGCATCTGCAAGTTAAAACCA-3′*
PAX6 [25]	*5′-AACGACACAGCCCTCACAAACA-3′*	*5′-CGGGAACTTGAACTGGAACTGAC-3′*
ZO-1 (TJP1) [49]	*5′-CCAGAATCTCGGAAAAGTGC-3′*	*5′-ACCGTGTAATGGCAGACTCC-3′*
SOX9 [50]	*5′-GTA CCC GCA CTT GCA CAA C-3′*	*5′-TCT CGC TCT CGT TCA GAA GTC-3′*

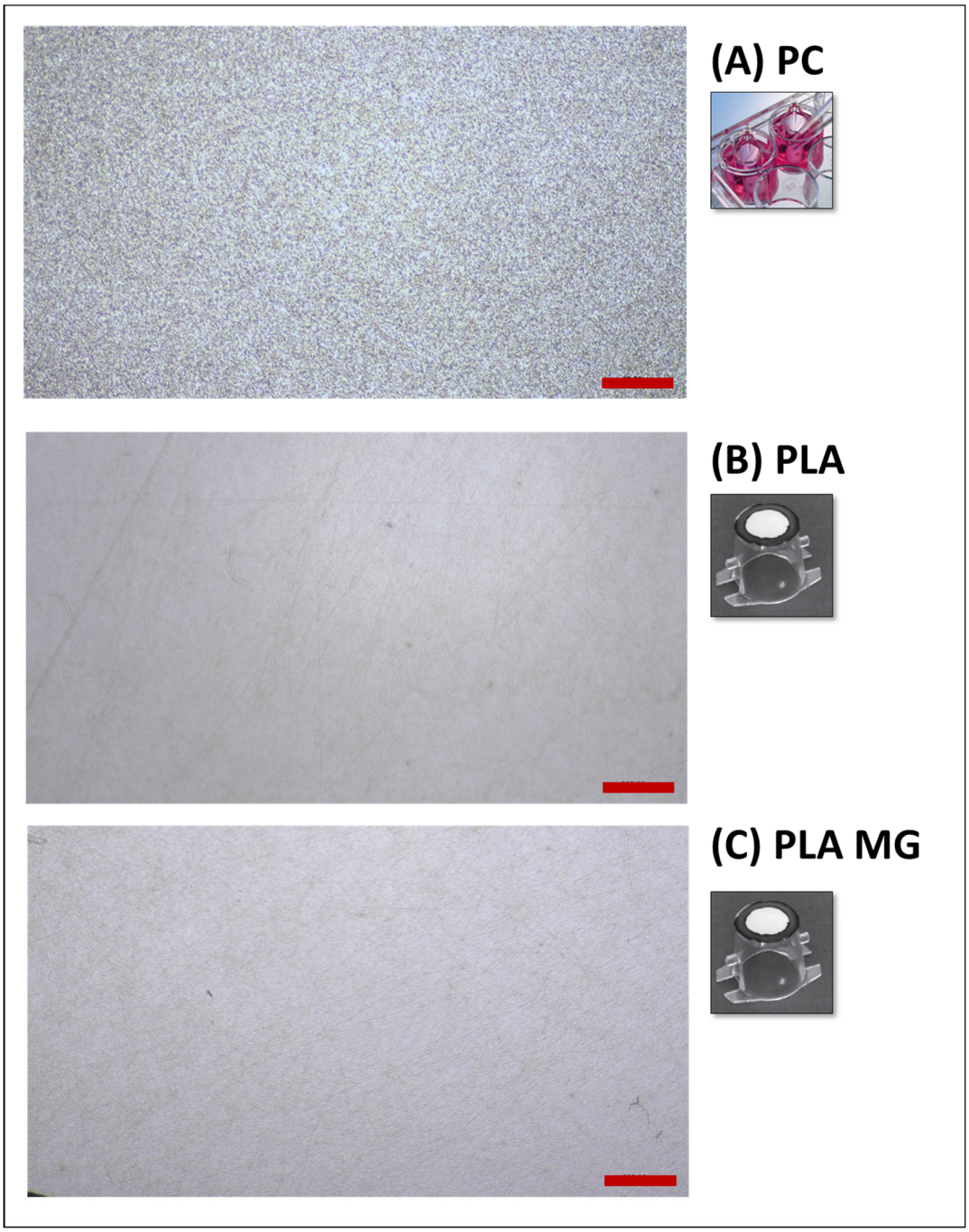

Figure S1. Representative optical microscope images of (A) commercial PC, (B) uncoated electrospun PLA membranes, and (C) coated electrospun PLA membranes without cells for comparison. Red scale: 300 μm. PC: polycarbonate; PLA: polylactide; MG: Matrigel.

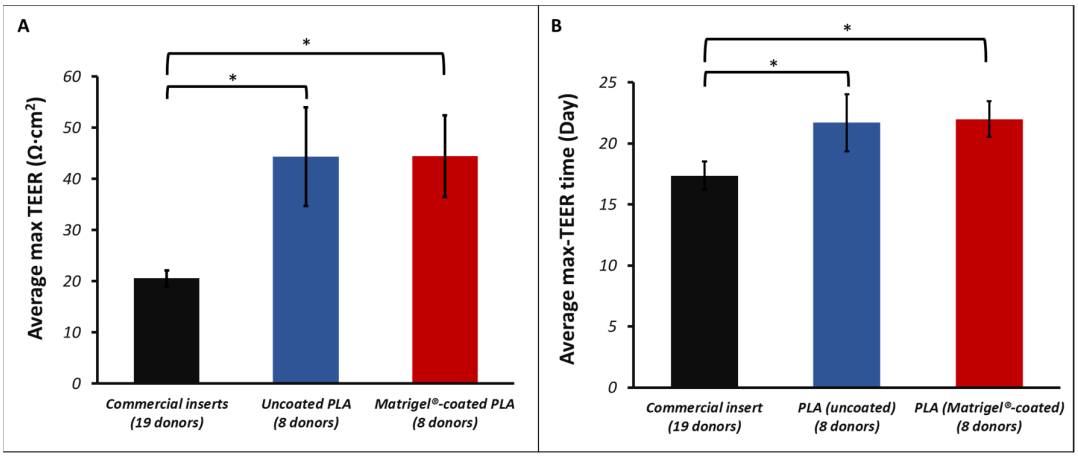

Figure S2. (A) Peak (max) TEER values and (B) peak TEER value per day. Average from all TEER monitoring sessions for each support type. PC: polycarbonate, PLA: polylactide. Error bars: SEM. * $p \leq 0.05$.

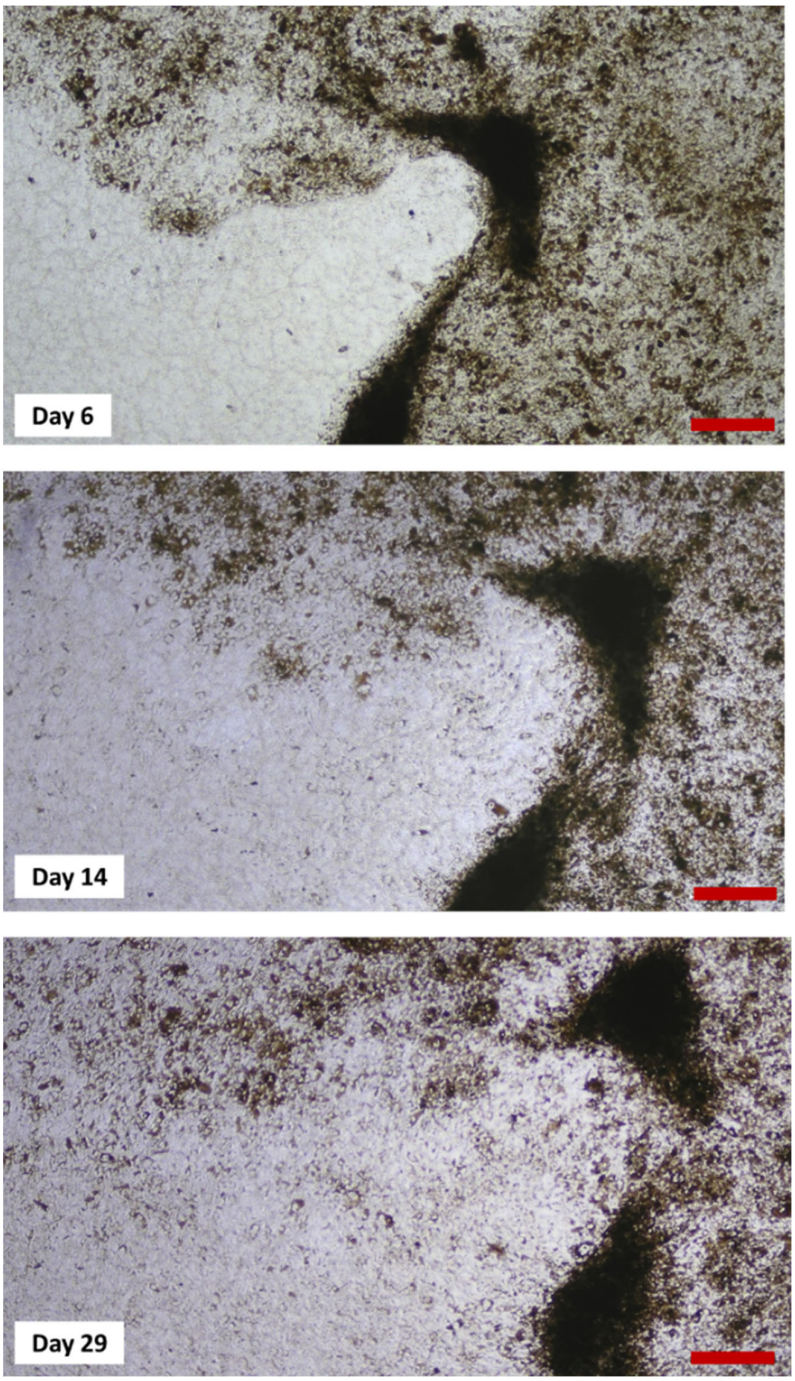

Figure S3. Representative image sequence of hRPE cell culture on uncoated PLA. Red scale: 300 μm.

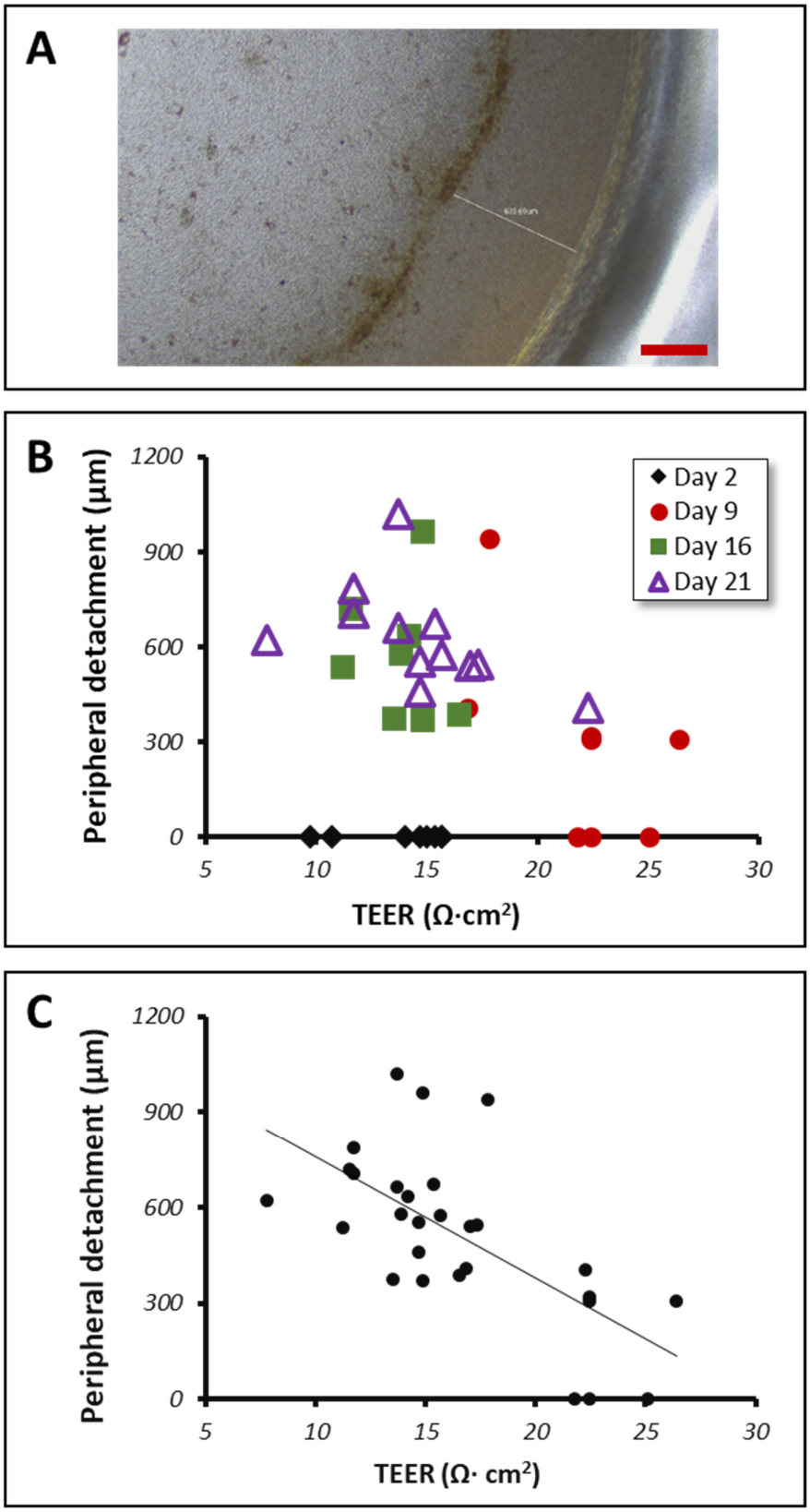

Figure S4. (A) Optical microscope image of hRPE cell culture on commercial insert and measurement of peripheral partial detachment. Red scale: 300 µm. (B) Relation between detachment and TEER at diverse culture days and (C) all days merged (excluding day 2).

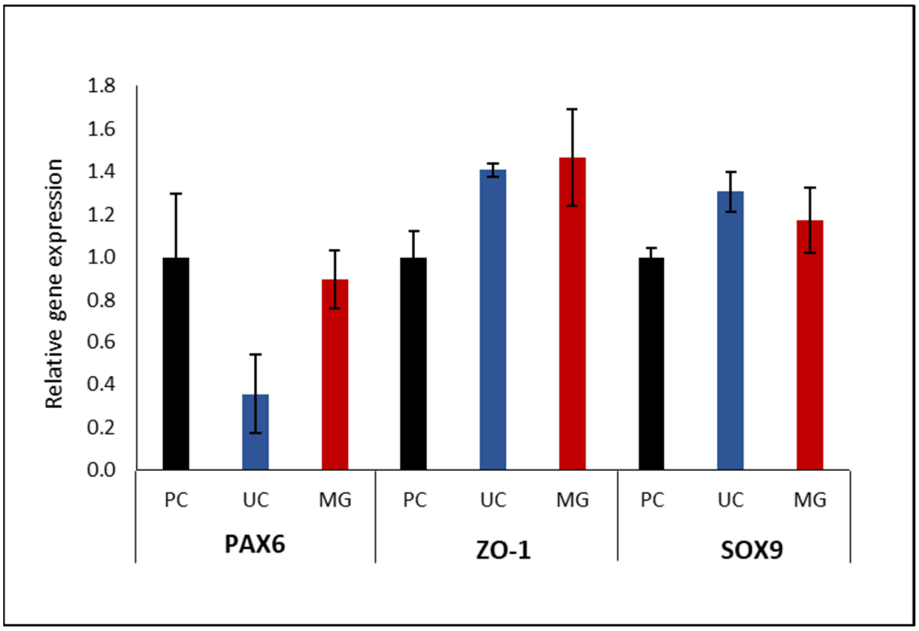

Figure S5. Relative expression of hRPE markers; PAX6, ZO-1, and SOX9 in hRPE cultivated on uncoated and coated PLA membranes in comparison to commercial polycarbonic inserts. Expression of monitored genes in commercial inserts was set to 1. Data are shown as ratio. PC: polycarbonate, UC: uncoated PLA membranes, MG: coated PLA membranes; 3 donors; error: SEM

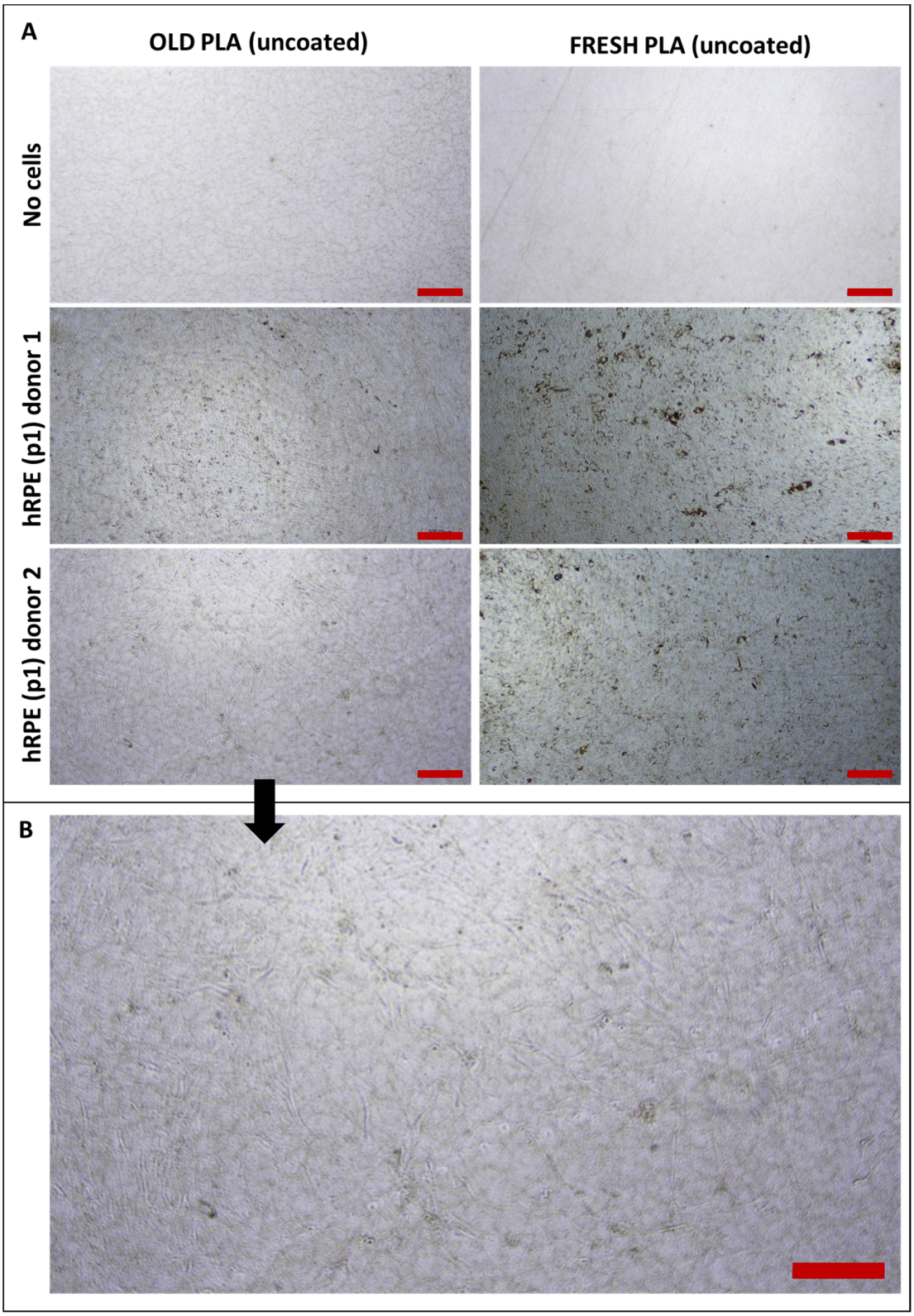

Figure S6. Representative images (20th day of culture) (A) comparing hRPE (passage 1) morphology on old (21 months) and fresh (1 month) uncoated PLA. Pictures of coatings without cells are also shown for reference. (B) Close-up image of hRPE culture (donor 2) on uncoated old PLA. Red scale: 300 μm.

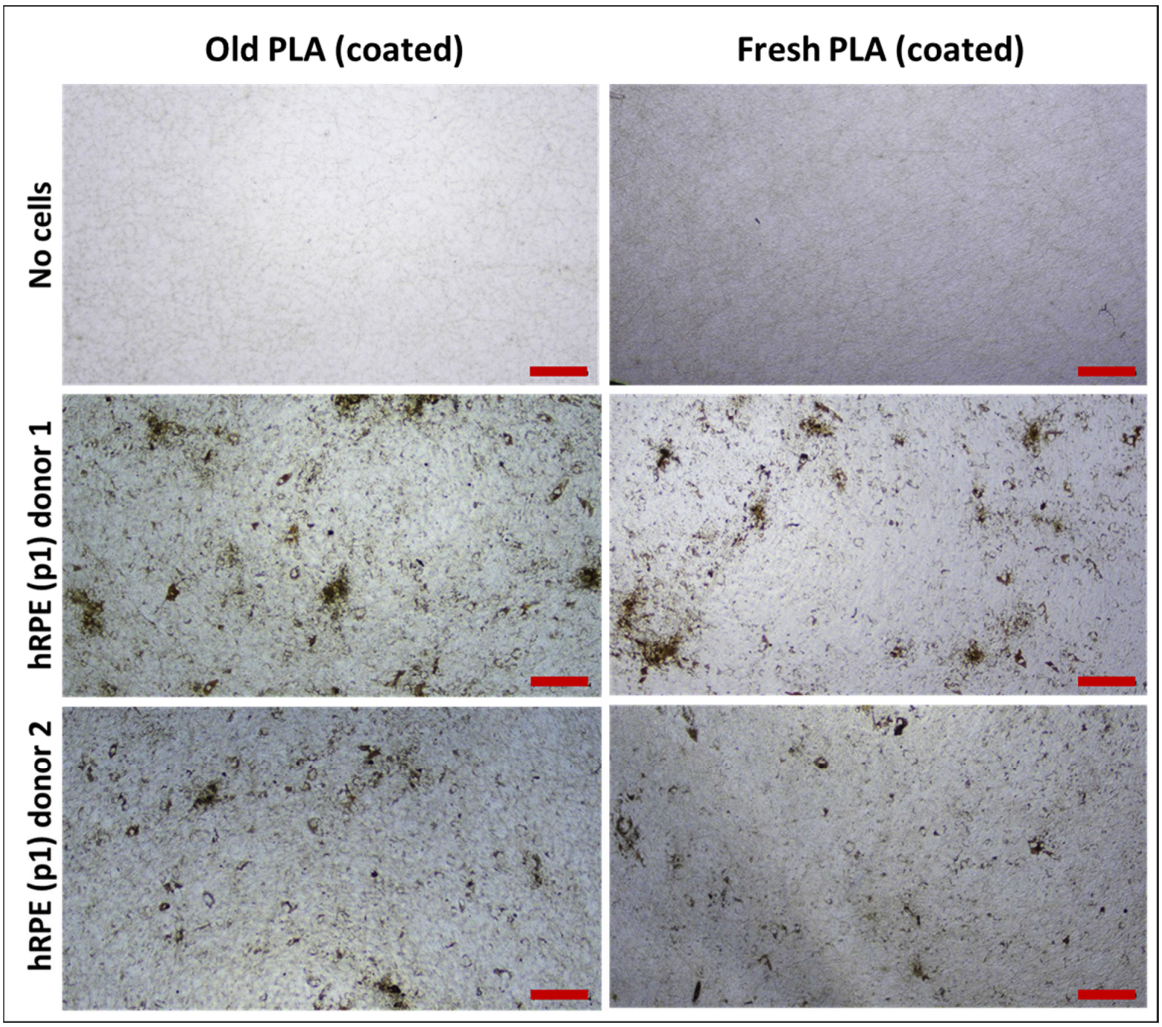

Figure S7. Representative images (20th day of culture) comparing hRPE (passage 1) morphology on old (21 months) and fresh (1 month) PLA coated with Matrigel®. Pictures of coatings without cells are also shown for reference. Red scale: 300 μm.

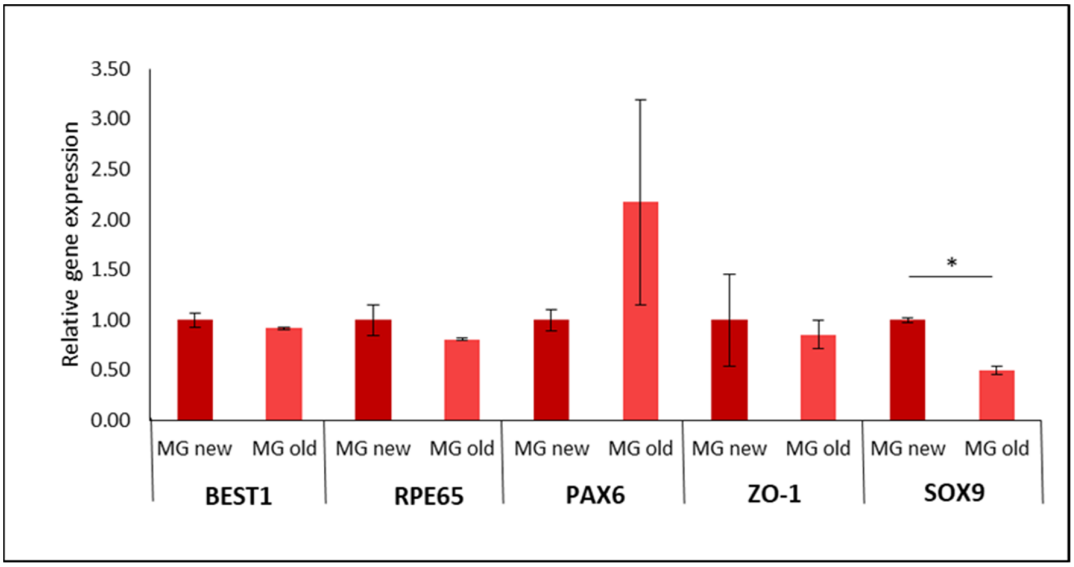

Figure S8. Relative gene expressions of BEST1, RPE65, PAX6, ZO-1, and SOX9**;** 2 donors; error: SEM. * $p \leq 0.05$