



Fig. S1. Morphological characterization of the differentiation process of hESC-derived RPE cells. (A) Formation of pigmented cell colonies interspersed with non-pigmented cells after 3 months of differentiation. (B) Pigmented spots which were dissected and plated on another culture plate lose pigmentation and polygonal shape as proliferation occurs, a stage in which they have a shape similar to that of fibroblasts. (C) Homogeneous culture of hESC-RPE in P0 7 days after cell passage. (D) hESC-RPE cells undergoing a redifferentiation process, acquiring hexagonal morphology and pigmentation, after 25 days in culture. (E) hESC-RPE cells after 64 days of cultivation reach a highly differentiated cell population, presenting homogeneous cellular morphology and pigmentation. (F) hESC-RPE (64 days) in greater augmentation, where it is possible to observe the polygonal morphology and the massive presence of pigment granules. (G, H) Differentiated hESC-RPE cells form “bubbles” that can be evidenced by the change of focus in the microscope view. Magnification: 40× (A), 100× (B~E, G~H) and 320× (F).