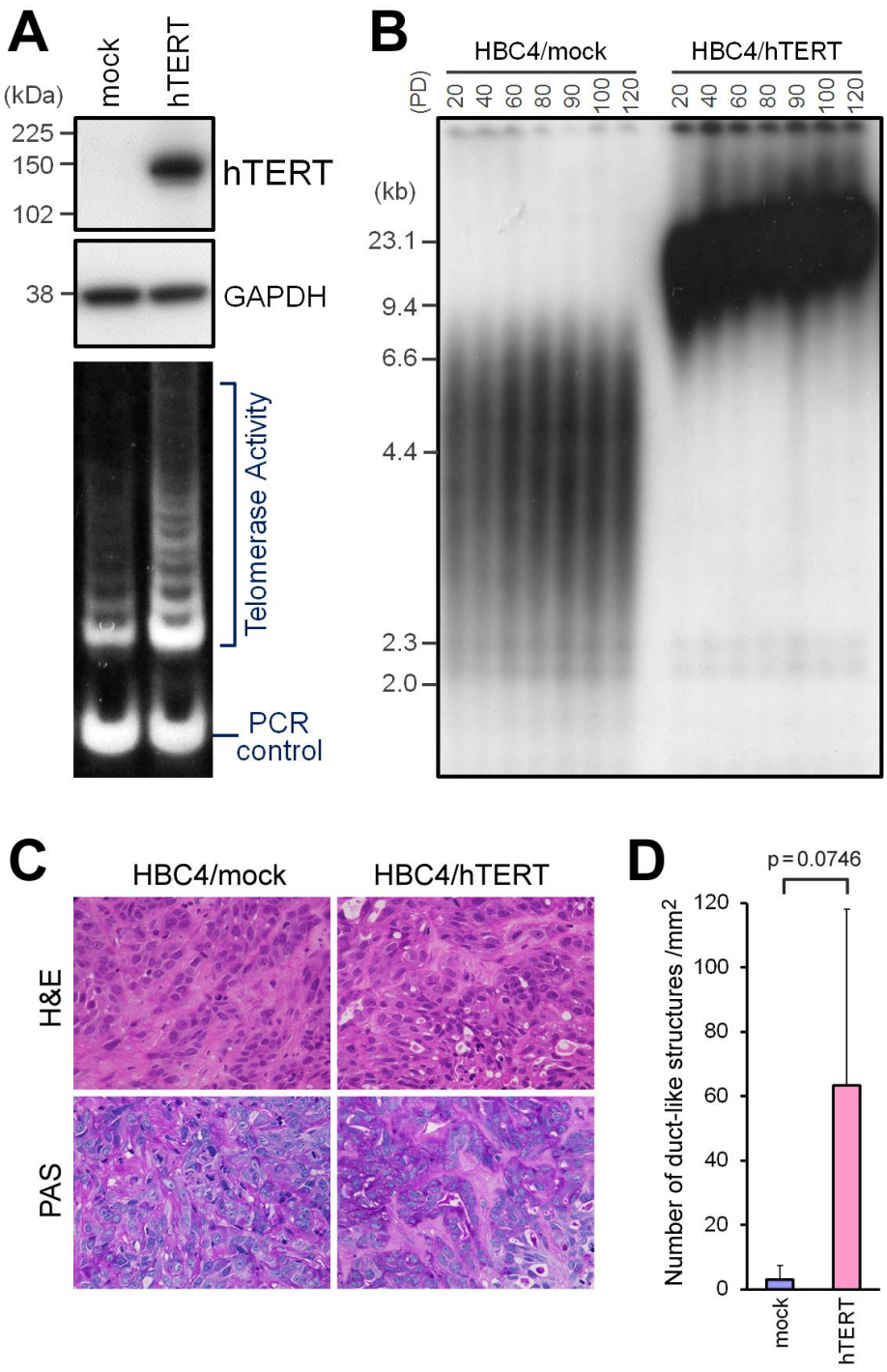

FIG S2 Induction of duct-like structures in tumors as a result of hTERT overexpression in HBC4 human breast cancer cells. (**A**) Retroviral overexpression of

hTERT (upper and middle panels) and upregulation of telomerase activity (bottom panel) in HBC4 cells at PD 60. Size markers (kDa) are indicated on the left. (**B**) Telomere elongation in HBC4/hTERT cells demonstrated using Southern blot analysis. (**C**) Hematoxylin and eosin staining (upper panels) and Periodic acid-Schiff (PAS) staining (lower panels) of tissue sections of HBC4/mock and HBC4/hTERT cells in tumor xenografts. Duct-like structures were frequently observed in HBC4/hTERT tumors, and mucus production was detected in duct-like structures and cytoplasm of telomere-elongated HBC4/hTERT xenografts by PAS staining. These results demonstrate that long telomere also influences HBC4 breast cancer differentiation. Original magnification, 400×. (**D**) Quantification of duct-like structures. Parameters are the average and standard deviation of the number of ducts per unit area in each tumor (n = 5). Substantial differences were found between control xenograft tumors and xenograft tumors with elongated telomeres in terms of the rate of duct-like structures per unit area (two-tailed t-test).