

Figure 3.1. Increasing the proportion of stellate cells in organotypic 3D co-culture caused extra-cellular matrix gel contraction.

Organotypic extracellular matrix (ECM) gels were constructed, as described, such that the total number of cells (cancer and stellate) plated upon each gel remained constant (0.5×10^6) while the proportions of the two cells were altered by seeding specific ratios (a) of cancer cells (either Capan1 (b-i) or AsPc1- Fig 3.2) and stellate cells (PS1). In gels where the starting proportion of stellate cells were higher than cancer cells (2:1 and 5:1), a reduction in the length and an increase in thickness of the underlying ECM gels were observed (b-i show full length H&E images of organotypic gels associated with an increase in absolute final cancer cell count (j)). Broken line (c & h) show the extent of measurement of organotypic ECM 'cellular' length to avoid the 'edge artefacts' caused due to ECM gel contraction and folding. Bold lines in (c) and (h) indicate gel thickness measurement (averaging four measurements along the length of the gel limited to within the indicated cellular gel length). Scale bar: 1000 μ m