Supplementary Information

CD44v6 increases gastric cancer malignant phenotype by modulating adipose stromal cell-mediated ECM remodeling

Bianca N. Lourenço^{1,2,3,4,5}, Nora Springer^{1,6}, Daniel Ferreira^{2,3,4,7}, Carla Oliveira^{2,4,8}, Pedro L. Granja^{2,3,5,7}, Claudia Fischbach^{1,9,*}

¹Nancy E. and Peter C. Meinig School of Biomedical Engineering, Cornell University, Ithaca, NY, United States

²i3S - Instituto de Investigação e Inovação em Saúde, Universidade do Porto, Portugal

³INEB - Instituto de Engenharia Biomédica, Universidade do Porto, Portugal ⁴IPATIMUP - Institute of Molecular Pathology and Immunology of the University of Porto, Portugal

⁵Faculdade de Engenharia, Universidade do Porto, Portugal

⁶Biological and Biomedical Sciences, Cornell University, Ithaca, NY, United States

⁷Instituto de Ciências Biomédicas Abel Salazar, Universidade do Porto, Portugal

⁸Departamento de Patologia e Oncologia, Faculdade de Medicina, Universidade do Porto, Portugal

⁹Kavli Institute at Cornell for Nanoscale Science, Cornell University, Ithaca, NY, United States

*Corresponding author. E-mail: cf99@cornell.edu

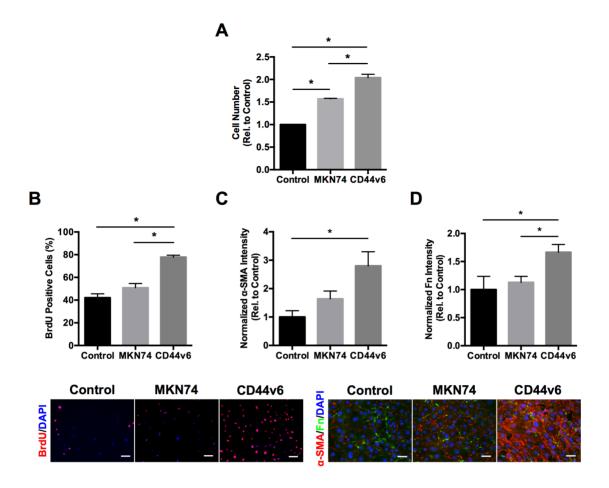


Fig. S1. Tumor-secreted soluble factors from CD44v6 expressing cells increase 3T3-L1s function. (A) Number of 3T3-L1s after culture in TCMs from Control, MKN28, and CD44v6 cells relative to Control (n = 3). (B) BrdU incorporation of 3T3-L1s as determined by immunofluorescence image analysis (n = 43 images per condition) * p < 0.05. (C and D) Immunofluorescence image analysis of α -smooth muscle actin (α -SMA) and fibronectin (Fn) of 3T3-L1s relative to Control (n = 14 images per condition). Scale bars = 20 µm.

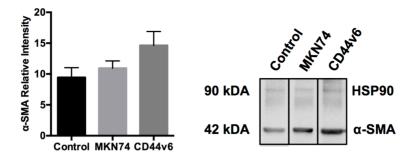


Fig. S2. Tumor-secreted soluble factors from CD44v6 expressing cells enhance ASC differentiation into myofibroblasts. Western blot quantification of α -SMA expressed by TCM-treated ASCs relative to the corresponding HSP90 levels (n = 3).

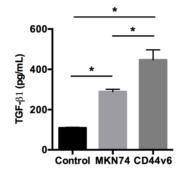


Fig. S3. CD44v6 expression increases GC cell secretion of transforming growth factor- β (TGF- β). TGF- β secretion of MKN28 and CD44v6 cells as measured by ELISA (n = 3) * p < 0.05.

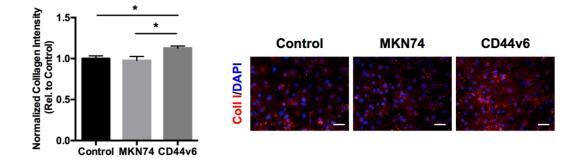


Fig. S4. Culture in CD44v6 TCM increases type I collagen matrix assembly by ASCs. Immunofluorescence image analysis of type I collagen deposited by TCM-treated ASCs relative to Control (n = 19 images per condition) * p < 0.05. Scale bars = 20 μ m