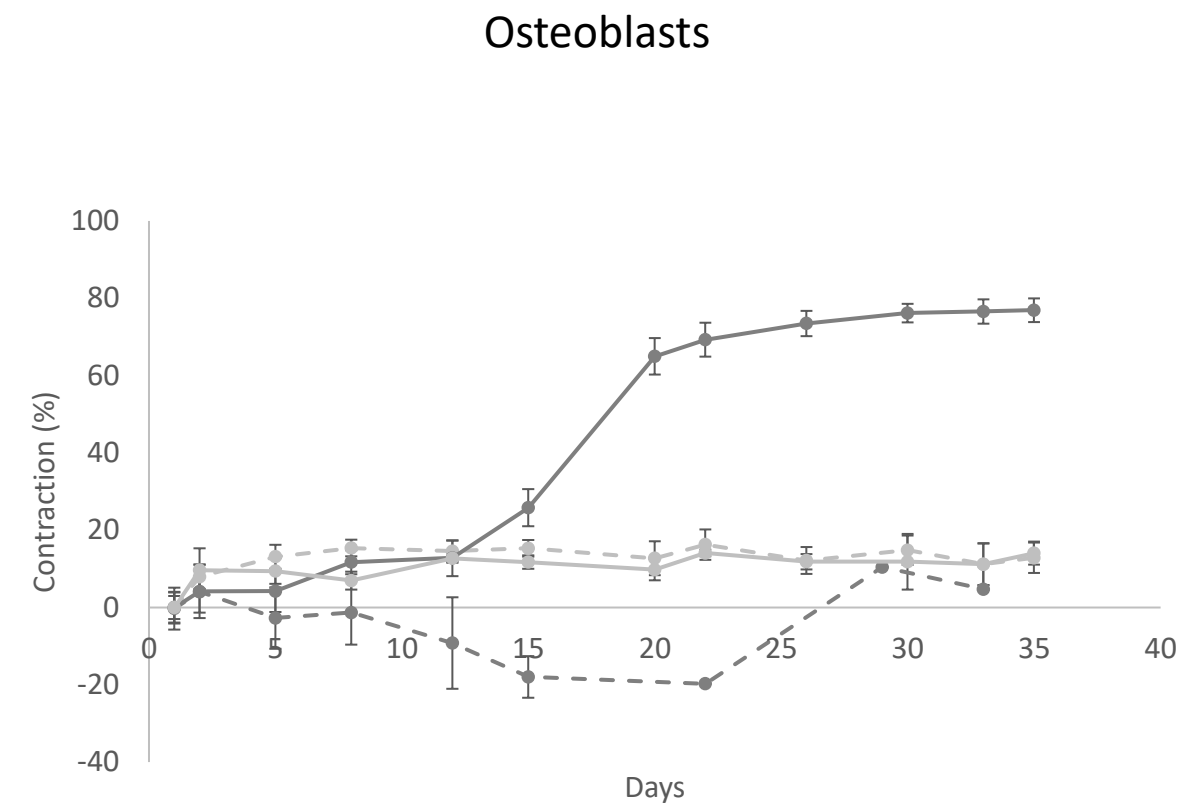
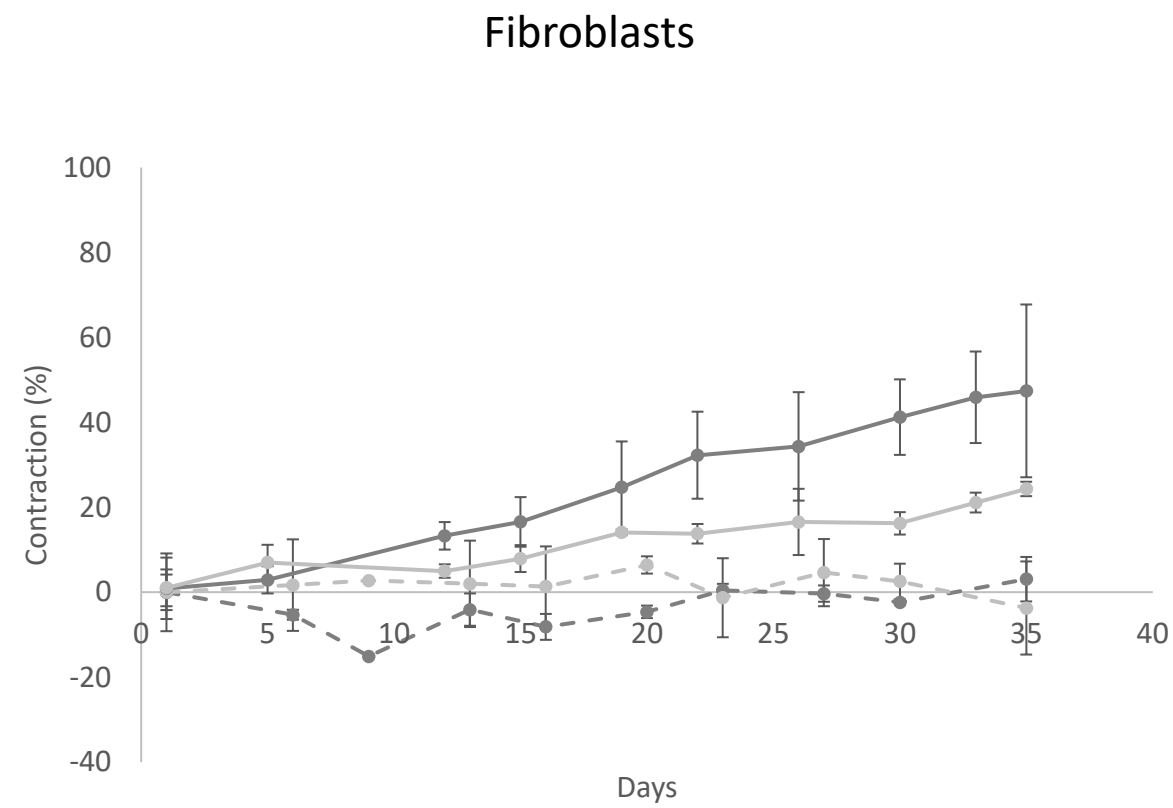
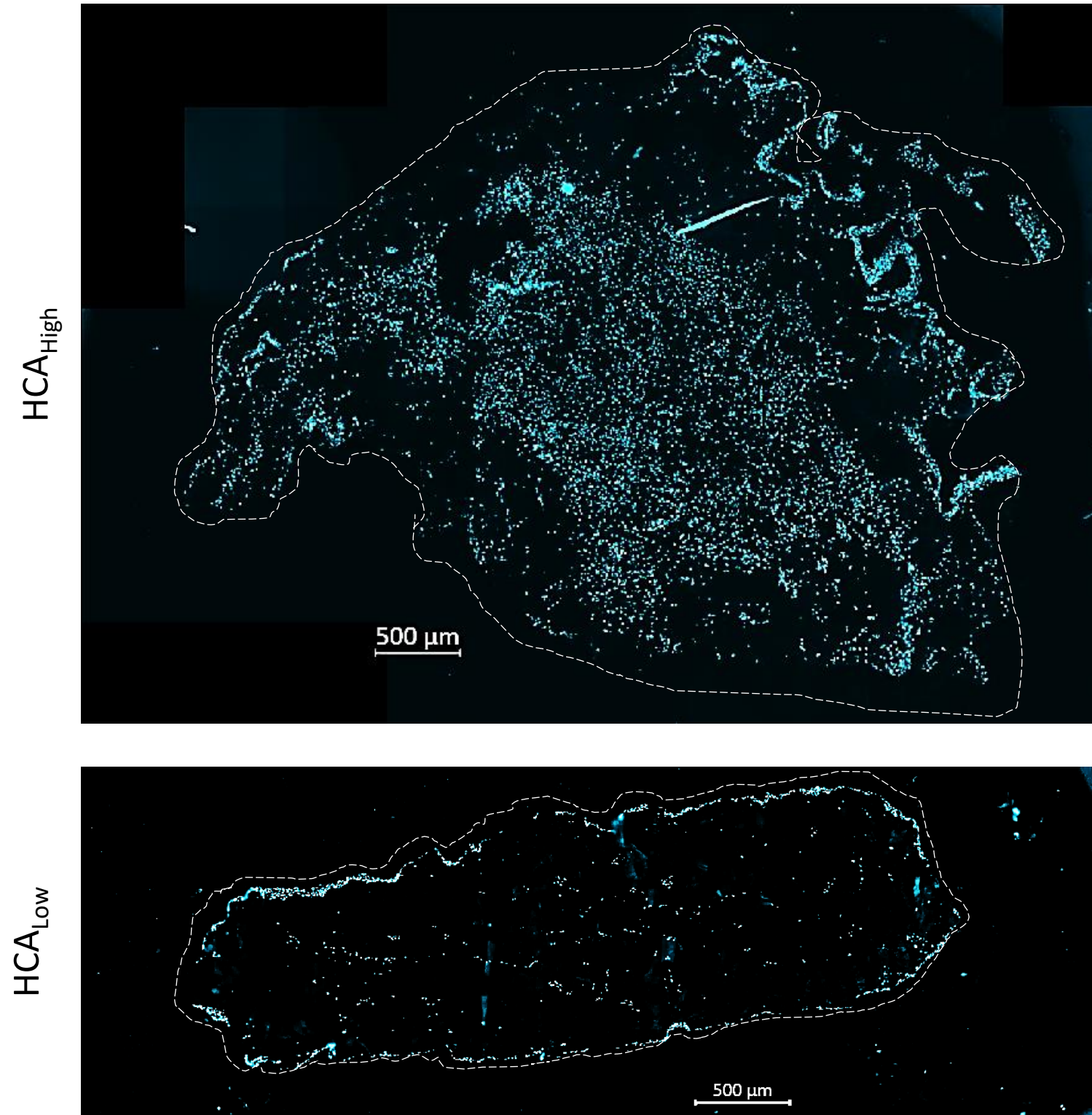


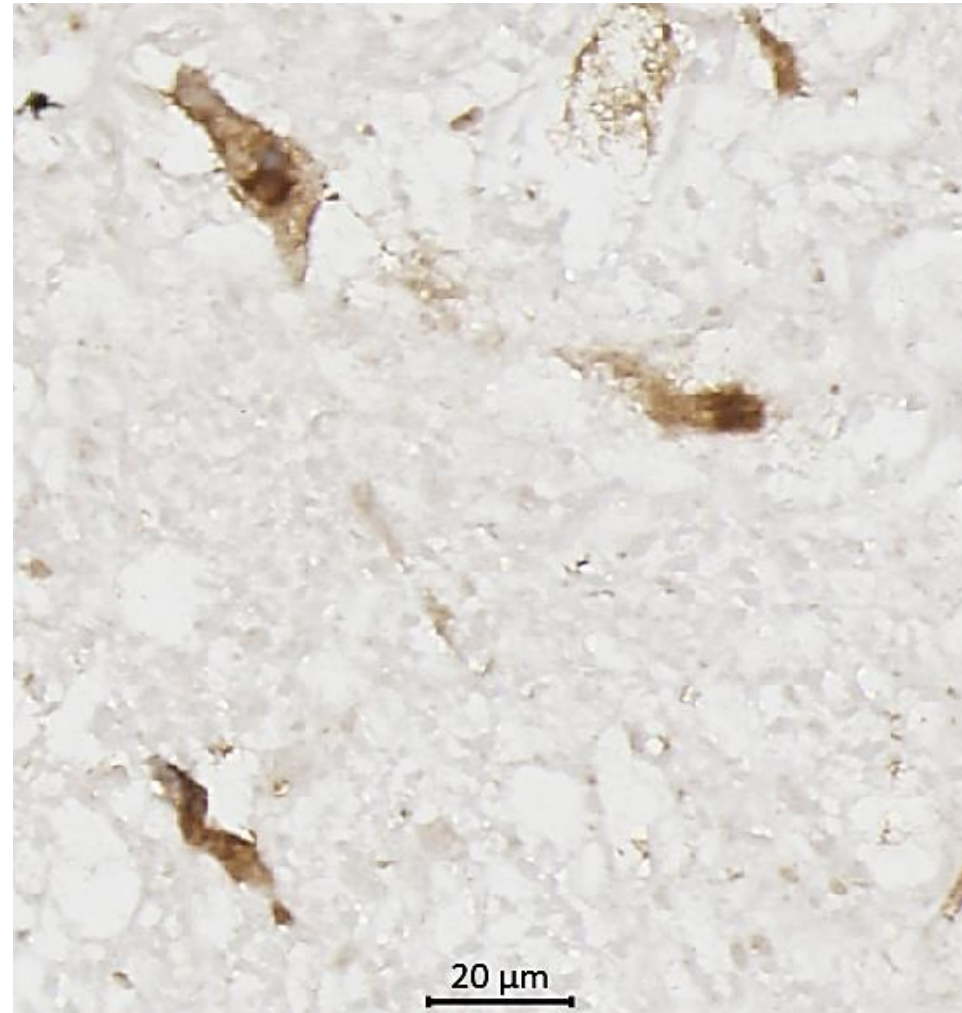
S1: Evolution of hydrogel surface monitored by image analysis expressed as a percentage of surface value at day 1.

HCA_{High}: hydrogel contraction assay with high contraction, HCA_{Low}: hydrogel contraction assay with low contraction.

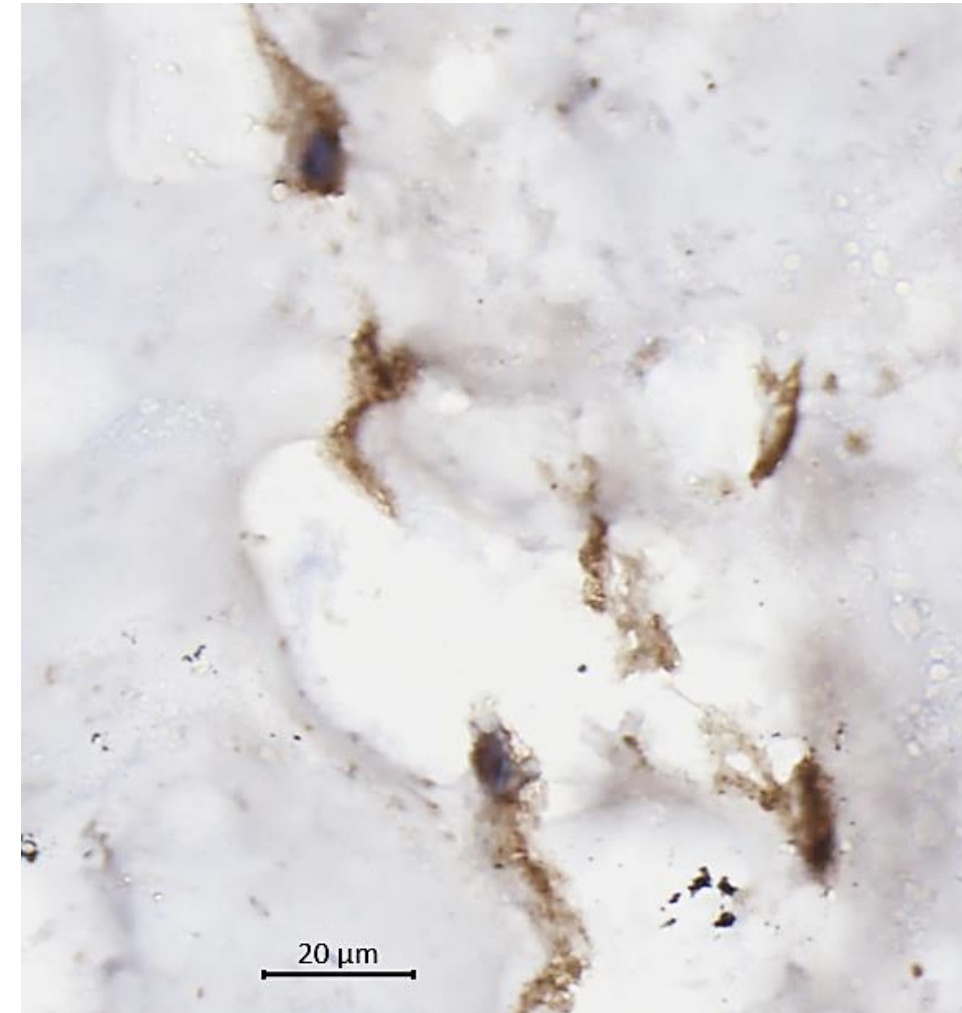


S2: Repartition of fibroblasts at day 33. Dashed line delineates the perimeter of the tissue construct. Nuclei were stained in blue DAPI. Cells in HCA_{High} were distributed homogeneously inside the hydrogels whereas cells in HCA_{Low} were mainly located on the outside. HCA_{High} : hydrogel contraction assay with high contraction, HCA_{Low} : hydrogel contraction assay with low contraction.

HCA_{High}

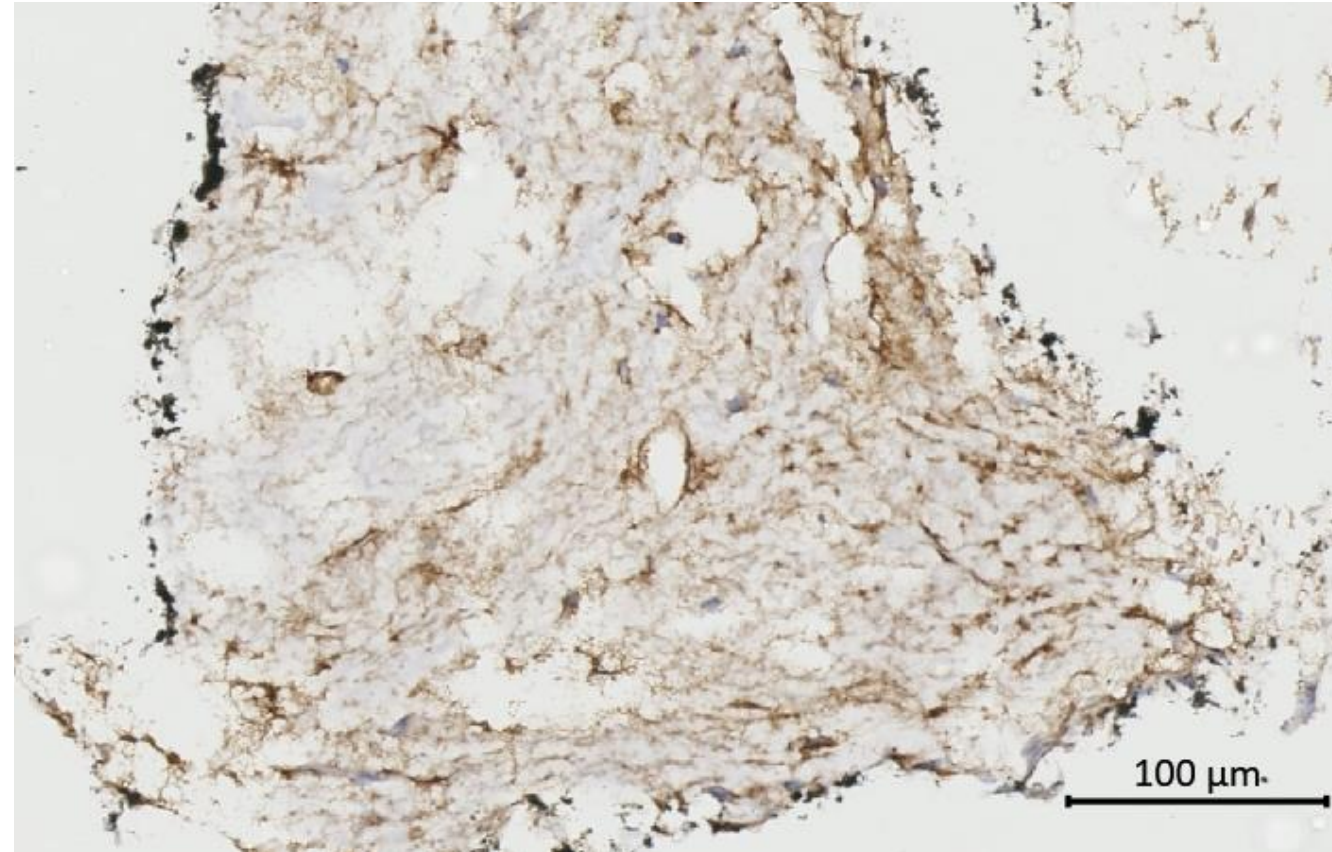


HCA_{Low}

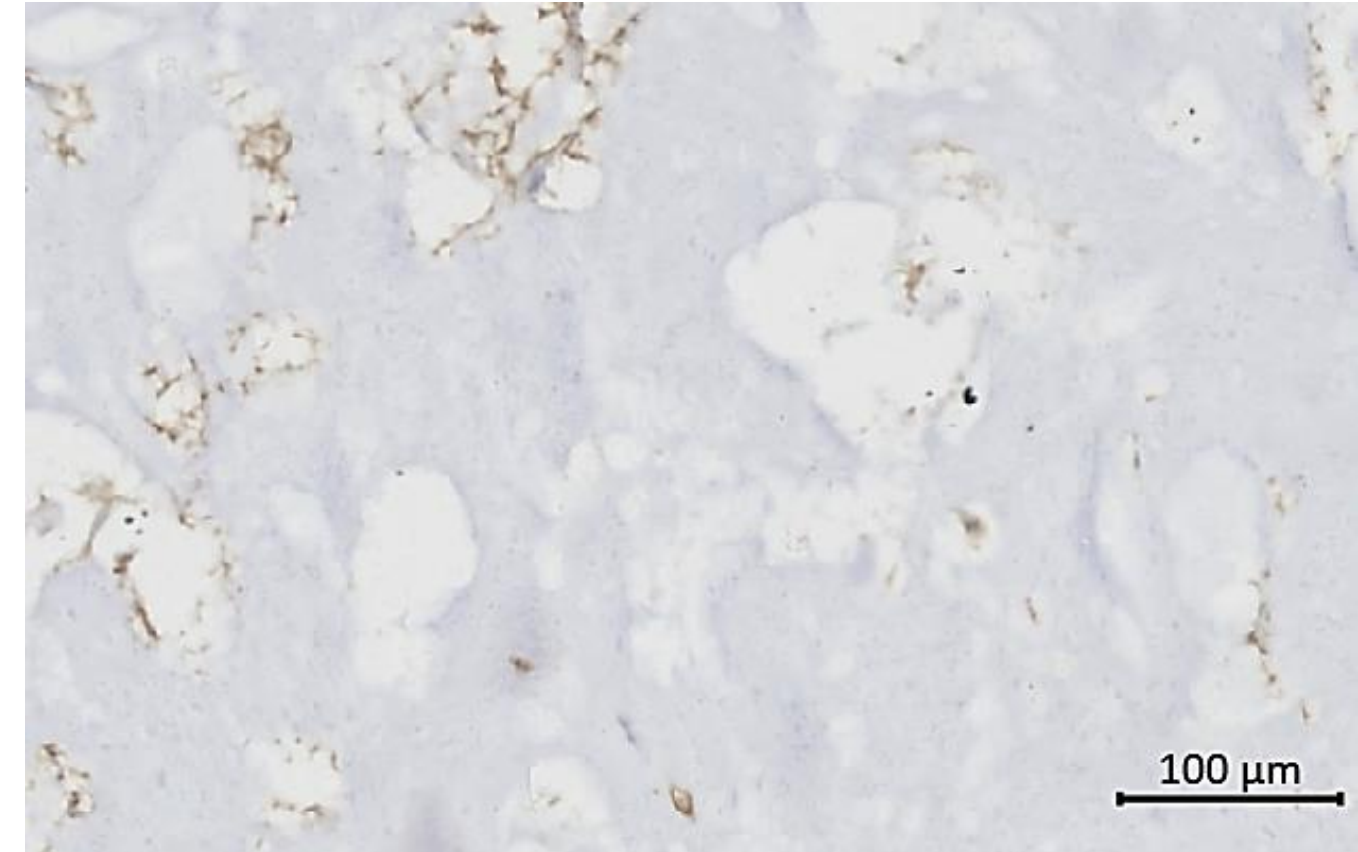


S3: Expression of PHEX at day 33. Cells positive for PHEX, a marker of osteocytes, appear in brown and nuclei in dark blue. HCA_{High}: hydrogel contraction assay with high contraction, HCA_{Low}: hydrogel contraction assay with low contraction.

HCA_{High}



HCA_{Low}



S4: Collagen secretion at day 33. Osteoblasts in HCA_{High} have remodeled their matrix and secreted collagen. Secretion of collagen in HCA_{Low} is localised immediately around cells. HCA_{High}: hydrogel contraction assay with high contraction, HCA_{Low}: hydrogel contraction assay with low contraction.