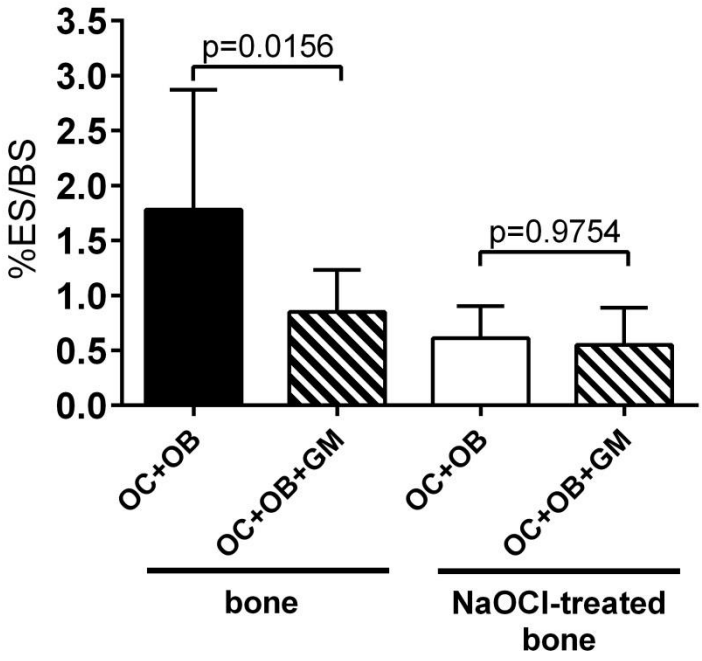
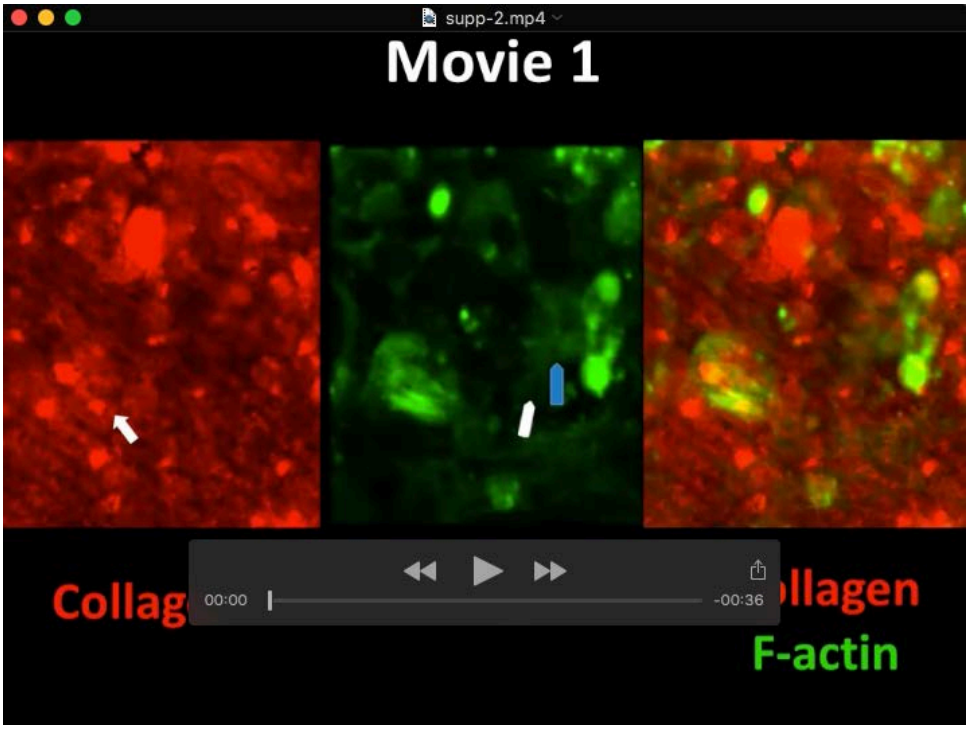
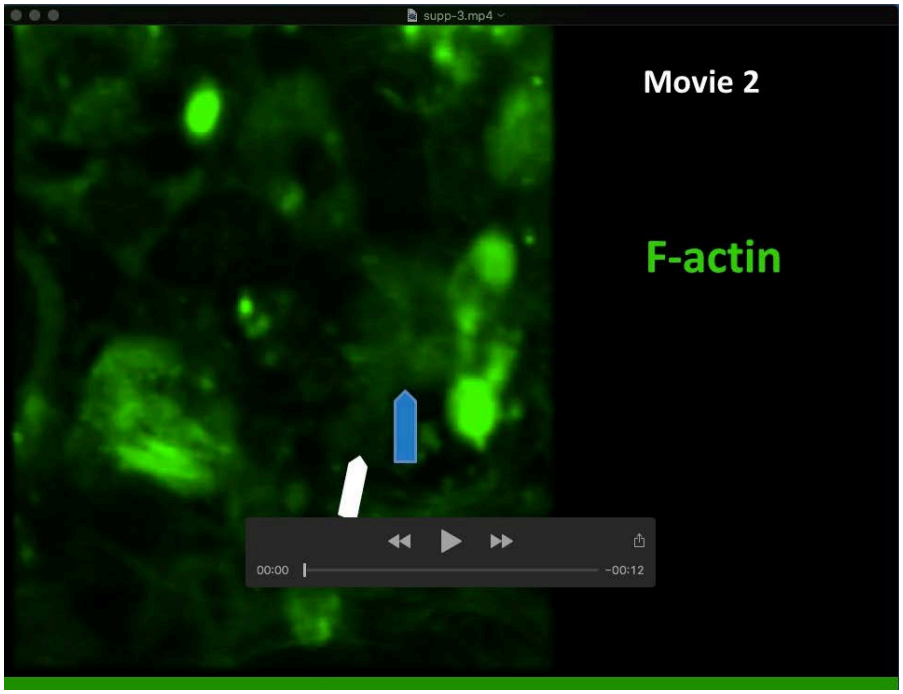


Fig. S1. MMPs from osteoblast-lineage cells only stimulate osteoclastic resorption on collagen-containing substrate. Data show a representative experiment of two, where the effect of 6 µM GM6001 (GM) on osteoclastic bone resorption ("OC" osteoclasts) was tested in the presence of osteoblast-lineage cells (OB) when seeded on bone or NaOCl-treated bone. The latter removes all organic components including collagen. Bone resorption was performed over 72h. ES/BS: eroded surface/bone surface. Bars show the mean ± SD, n=8 (except for "bone:OC+OB+BM" where n=7 because an outlier was removed based on Grubbs' test α=0.05). Statistics: one-way ANOVA and Sidak's multiple comparisons test.



Movie 1

Movie 1 shows the time-lapse recording from which snapshots shown in Fig. 2B were taken. Time-lapse recording was made with using a 10x objective with a confocal aperture of 2.0 (z-plane depth of 21.2 µm). The total recording time was 70h showing and images were taken every 21 min. The movie shows a resorbing osteoclast making a trench that is successively caught up by at least two osteoblast-lineage cells. The trench-making osteoclast can be recognized by the crescent shaped actin ring at the leading edge and is marked with a white arrow. The osteoblast-lineage cells can be recognized by the presence of stress fibers and are marked by white and blue arrows. These arrows move just prior to the migration of osteoblast-lineage cells towards the osteoclast. The bone surface is labeled with rhodamine and cells are labeled with SiR actin (stains f-actin)



Movie 2

Movie 2 shows an enlargement of the video showing the SiR actin labeled cells from Movie 1 to better visualize the directed movement of osteoblast-lineage cells onto the bone resorbing osteoclast.

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