Supplemental Information

Ex Vivo Gene Therapy Treats Bone Complications of Mucopolysaccharidosis Type II Mouse Models through Bone Remodeling Reactivation

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Figure S1. Fluorescence of the tibia

Histopathological results obtained from WT, NT, ERT, GT, and eGFP mice 12 weeks after initiating treatments. Using a fluorescence microscope, we observed the images of fluorescently labeled calcein. The width between the two red triangles represents the length of bone formation during the calcein dosing interval (4 days). The distance between two fluorescently labeled calcification fronts was measured with a fluorescence microscope to determine how much bone was formed during this interval. This distance was longer in ERT mice and even GT mice than in NT mice.
Figure S2. TRAP staining of the tibia

Tartrate-resistant acid phosphatase (TRAP) staining of the tibia from WT, NT, ERT, GT, and eGFP mice 12 weeks after initiating treatments. Yellow triangles in the images indicate osteoclasts as pinkish region with TRAP staining. More osteoclasts were observed in GT mice than in NT mice.
Figure S3. Micro CT value analysis

Micro CT value analysis of skull and femur obtained from WT, NT, ERT, GT, and eGFP mice 12 weeks after initiating treatments. The total bone surface, total bone mineral density, and total bone mineral content were measured using micro CT scan (mean ± SD, n = 5–10). Total bone surface in the skull of GT mice was significantly lower than that in the skull of NT and ERT mice. Total bone mineral density in the femur of ERT and GT mice was significantly lower than that in the femur of NT mice. Total bone mineral content in the femur of GT mice was significantly lower than that in the femur of NT mice. Statistical analyses of the data were performed by one-way analysis of variance (post-test; Bonferroni) (*p < 0.05, **p < 0.01, ****p < 0.0001).