

Supplementary Table I. Summary of phenotypes.

| Phenotype | Location | Occurrence (%) | | |
|---------------------------------|-------------------|--------------------------------|-----------------------------------|---------------------------------|
| | | FSP1-Ext1 ^{CKO} (n=9) | Col2a1-Ext1 ^{CKO} (n=12) | Ext1 ^{flox/flox} (n=9) |
| Osteochondroma in long bones | Humerus, proximal | 78 (%) | 58 (%) | 0 (%) |
| | Humerus, distal | 78 | 17 | 0 |
| | Ulna, distal | 78 | 100 | 0 |
| | Radius, distal | 89 | 100 | 0 |
| | Radius, proximal | 78 | 8 | 0 |
| | Femur, distal | 100 | 25 | 0 |
| | Tibia, proximal | 89 | 92 | 0 |
| | Tibia, distal | 56 | 50 | 0 |
| | Fibula, proximal | 78 | 58 | 0 |
| Osteochondroma in other bone | Scapula | 100 | 17 | 0 |
| | Vertebrae | 100 | 8 | 0 |
| | Rib bones | 100 | 100 | 0 |
| Bowing deformity | | 100 | 92 | 0 |
| Scoliosis | | 0 | 58 | 0 |

Supplementary Table II. Oligonucleotide primers.

| Gene Name | Sequences |
|---------------|---|
| <i>Acan</i> | Forward 5'-CCCAAGTGGAGTAGCTGAGG-3' Reverse 5'-AGACACAGTGGGGAAACCTG-3' |
| <i>Col2a1</i> | Forward 5'-CAGGATGCCCGAAAATTAGGG-3' Reverse 5'-ACCACGATCACCTCTGGGT-3' |
| <i>Ext1</i> | Forward 5'-CTCCCCTTCGGTCTTTCATC-3' Reverse 5'-TTCCCTGCTCTCTTCTTTTCC-3' |
| <i>Gapdh</i> | Forward 5'-CAATGACCCCTTCATTGACC-3' Reverse 5'-GACAAGCTTCCCGTTCTCAG-3' |
| <i>Sox9</i> | Forward 5'-ACGGCTCCAGCAAGAAACAAG-3' Reverse 5'-TTGTGCAGATGCGGGTACTG-3' |