Supp. data 1.Western blot analysis showing increased Cbl protein level in primary hMSC transduced with the G306E Cbl mutant (MT) compared to the empty vector (EV) (A). Effect of the G3036E Cbl mutant on cell replication in primary hMSC as shown by BrdU assay (B). Change in cell survival induced by the G3036E Cbl mutant in primary hMSC as shown by MTT assay (C). * indicates a significant difference with EV-transduced cells ($p<0.05$).

Supp. data 2. Effect of knocking down Cbl on human MSC osteogenic differentiation.
Quantitative PCR (A) and Western blot analyses (B) showing efficiency of shCbl on Cbl mRNA and protein levels in clonal hMSC. Knocking down Cbl using shCbl decreased the expression of most osteoblast markers compared to empty vector (EV) transduced cells (C). * indicates a significant difference with EV-transduced cells ($p<0.05$).

Supp. data 3. Western blot analysis showing that the G306E Cbl mutant increased PDGFRα and FGFR2 levels in primary hMSC (A). Western blot analysis showing that the G306E Cbl mutant increased ERK1/2 and PI3K, but not Akt phosphorylation in primary hMSC (B).