



Supplementary Figure 4. miR-151-5p mimic rescued IL4-induced lineage alteration in hMSCs. (A) IL4 treatment reduced human BMMSC-mediated *in vitro* mineralized nodule formation, assessed by alizarin red staining; rapamycin treatment rescued IL4-induced reduction of mineralized nodule formation. (B) IL4-treated human BMMSCs showed upregulation of p-mTOR and downregulation of *Runx2*, *ALP* and *OCN* compared to untreated BMMSCs; rapamycin treatment rescued IL4-induced altered expression of *p-mTOR*, *Runx2*, *ALP*, and *OCN* in human BMMSCs. (C) qPCR analysis showing the levels of miR-151-5p in control, IL4+vehicle and IL4+miR-151-5p mimic-treated hMSCs. (D) qPCR analysis showing the expression levels of *Il4ra* in control, IL4+vehicle and IL4+miR-151-5p mimic-treated hMSCs. (E) Alizarin red staining showing the capacity to form mineralized nodules of control, IL4+vehicle and IL4+miR-151-5p mimic-treated hMSCs under osteoinductive conditions. (F) Western blotting showing the expression levels of the osteogenic genes *Runx2*, *ALP* and *OCN* in control, IL4+vehicle and IL4+miR-151-5p mimic-treated hMSCs. β -Actin was used as a protein loading control. (G) The number of Oil red O⁺ cells in control, IL4+vehicle and IL4+miR-151-5p mimic-treated hMSCs under adipogenic conditions. (H) The expression levels of adipogenic genes *PPAR γ 2* and *LPL* in control, IL4+vehicle and IL4+miR-151-5p mimic-treated hMSCs under the adipogenic conditions. All experimental data were verified in at least 3 independent experiments. Error bars represent the s.d. from the mean values. *** $P < 0.005$; * $P < 0.05$.