

**Supplementary Information for:**

**TPPU inhibits inflammation-induced excessive autophagy to restore the osteogenic differentiation potential of stem cells and improves alveolar ridge preservation**

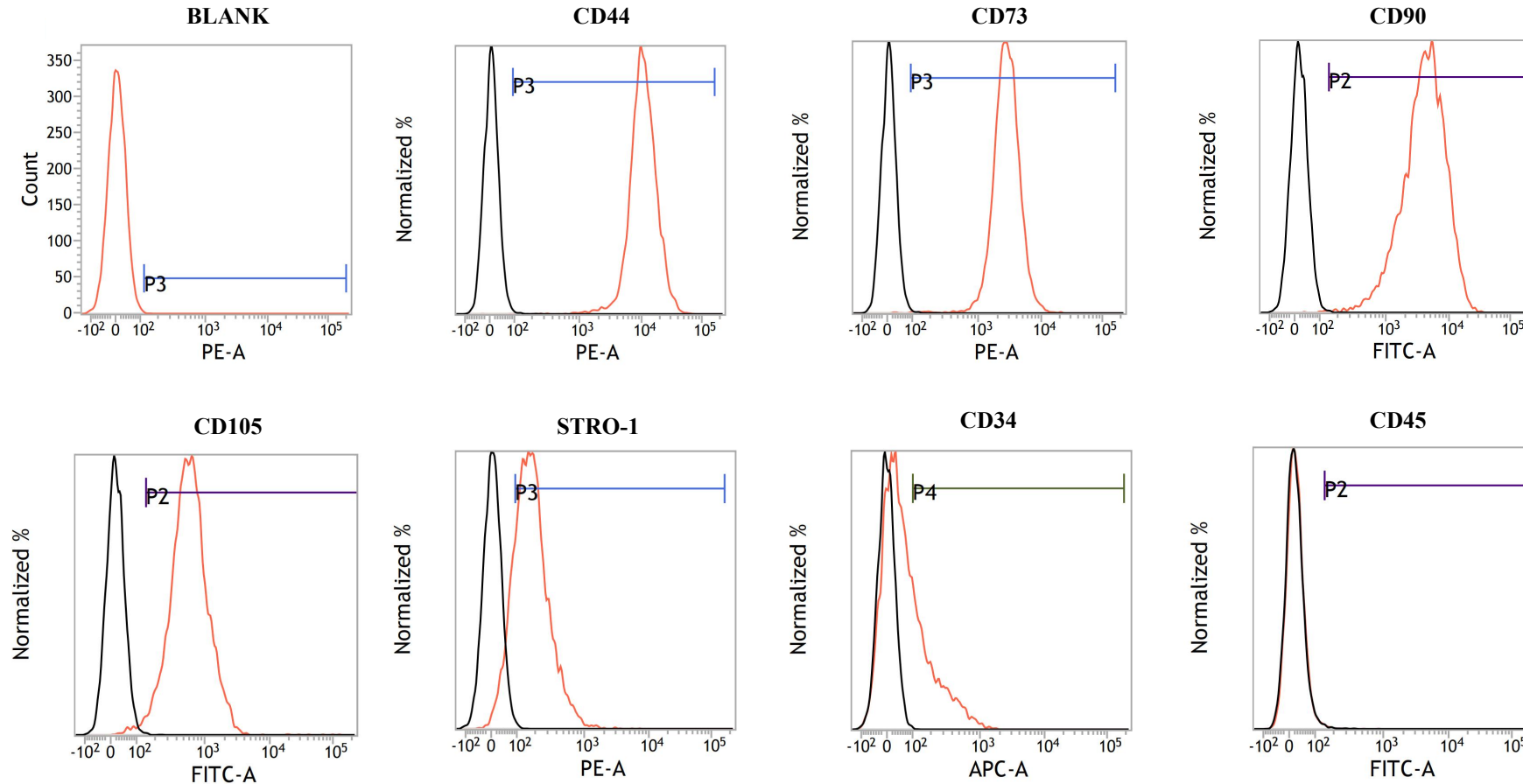
Haixia Dang<sup>1,2+</sup>, Weixian Chen<sup>2,3+</sup>, Lan Chen<sup>1</sup>, Xinru Huo<sup>2</sup>, Fu Wang<sup>2,3,4\*</sup>

<sup>1</sup>The Affiliated Stomatological Hospital, Southwest Medical University, Luzhou, 646000, China.

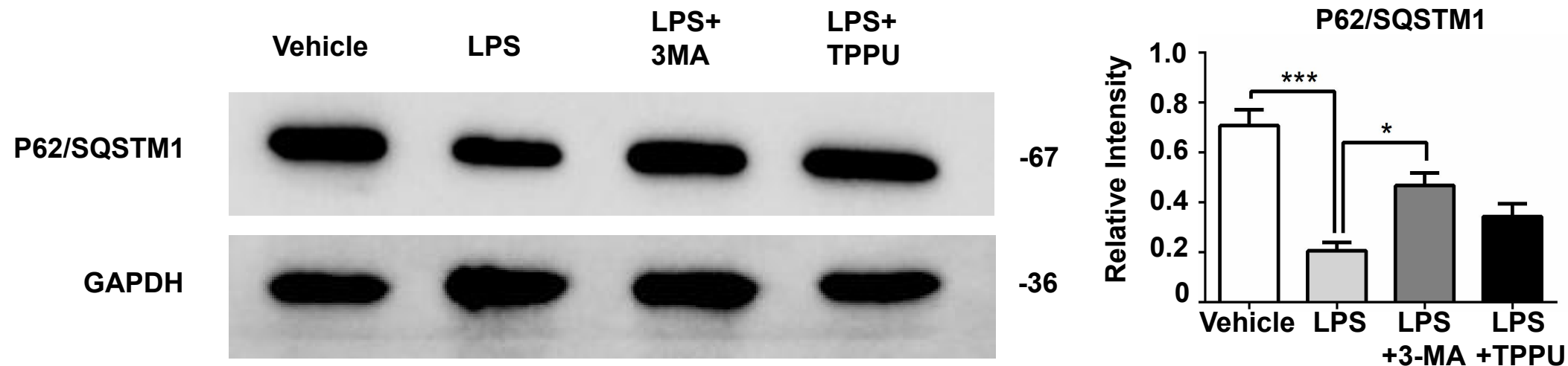
<sup>2</sup>School of Stomatology, Dalian Medical University, Dalian, 116044, China.

<sup>3</sup>Academician Laboratory of Immune and Oral Development & Regeneration, Dalian Medical University, Dalian, 116044, China.

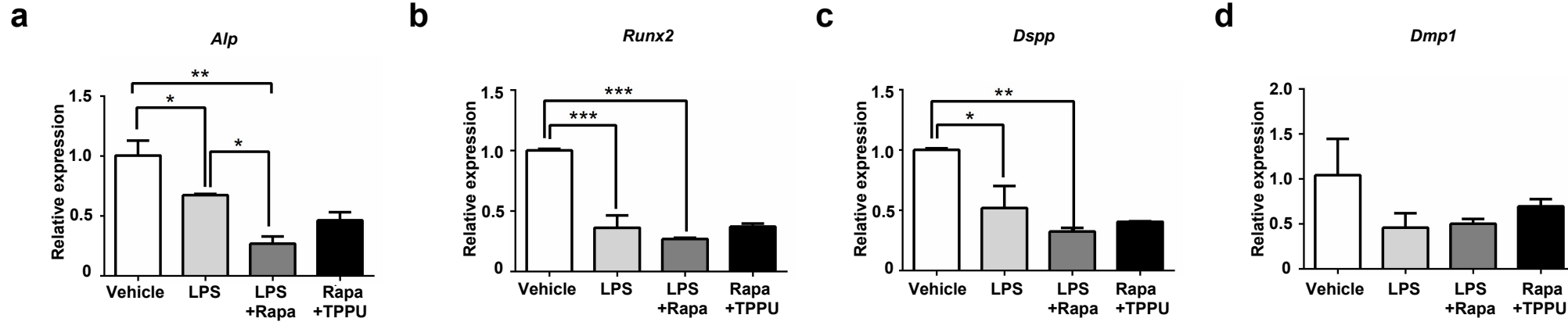
<sup>4</sup>The Affiliated Stomatological Hospital of Dalian Medical University School of Stomatology, Dalian, 116086, China.



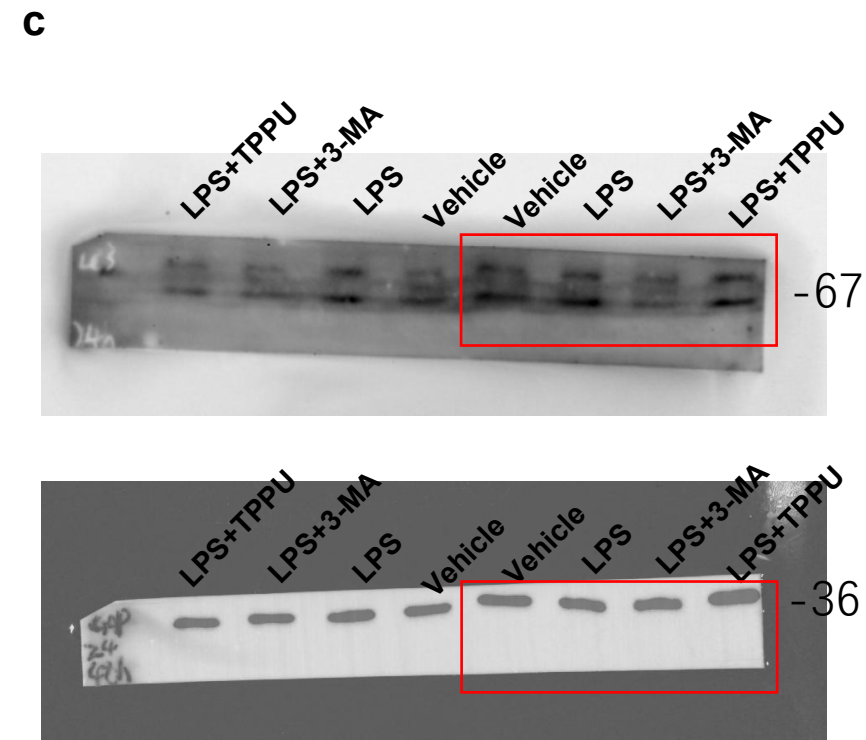
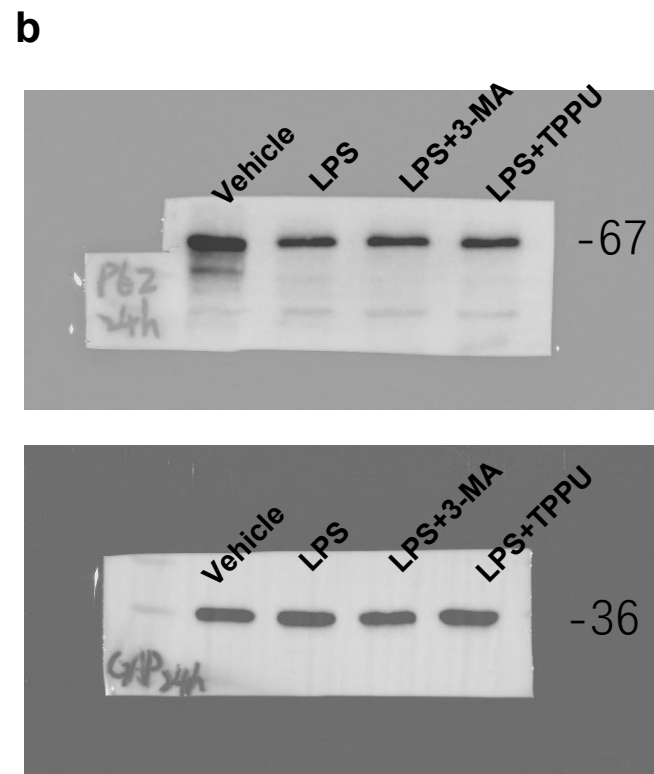
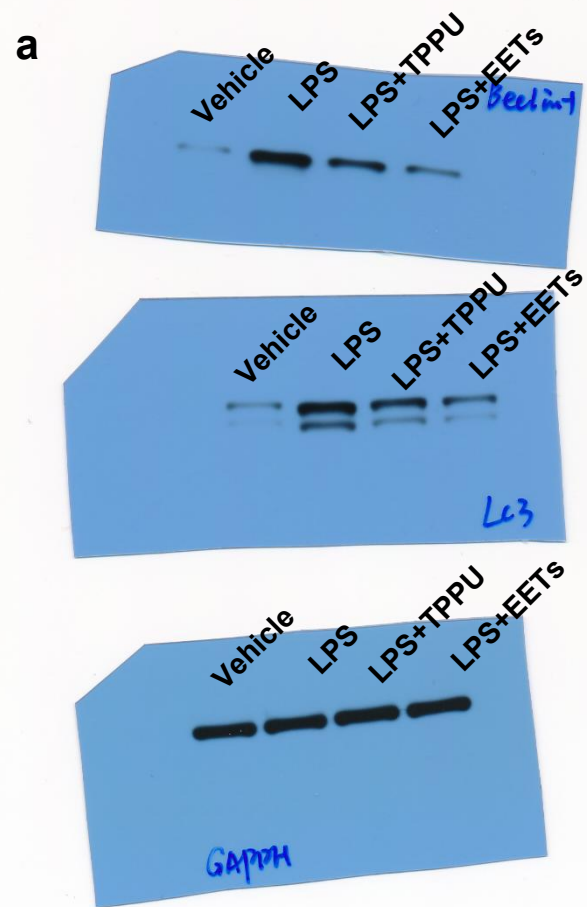
**Supplementary Fig. 1 Flow cytometry showing stem cells surface makers.** The hDPSCs are positive for CD44, CD73, CD90, CD105, and STRO-1, and negative for CD34 and CD45. The black histograms show the isotype control-stained cells and the red histograms show the antibody-stained cells. The control population was stained with matched isotype antibodies.



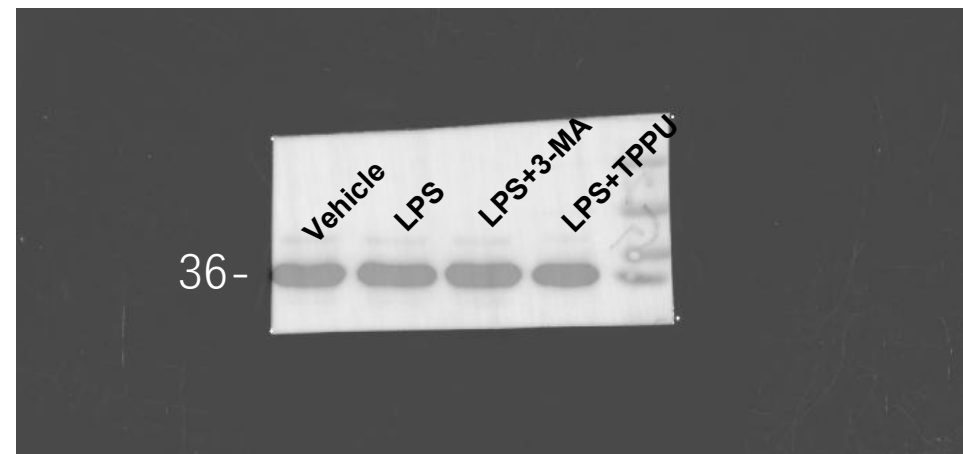
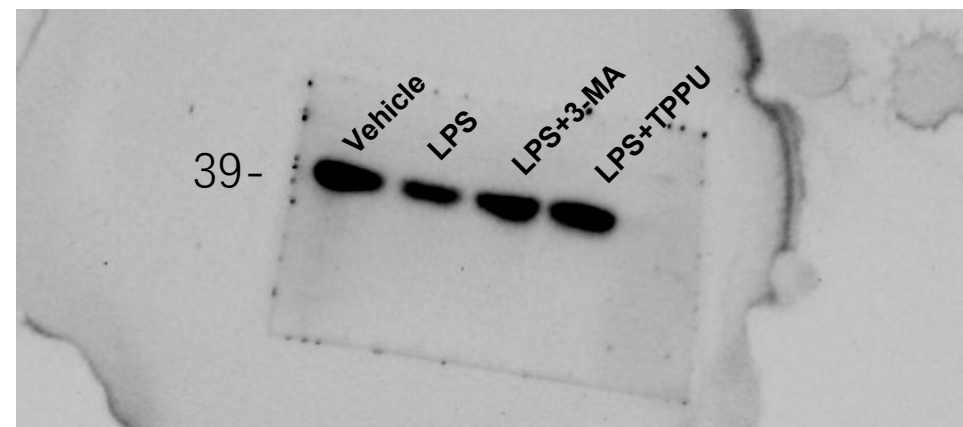
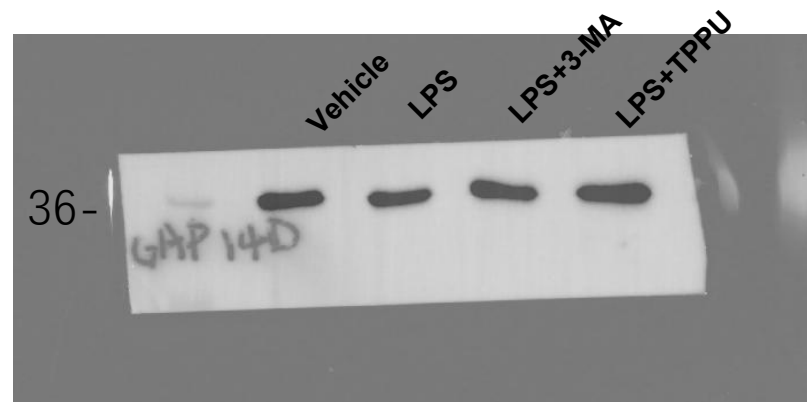
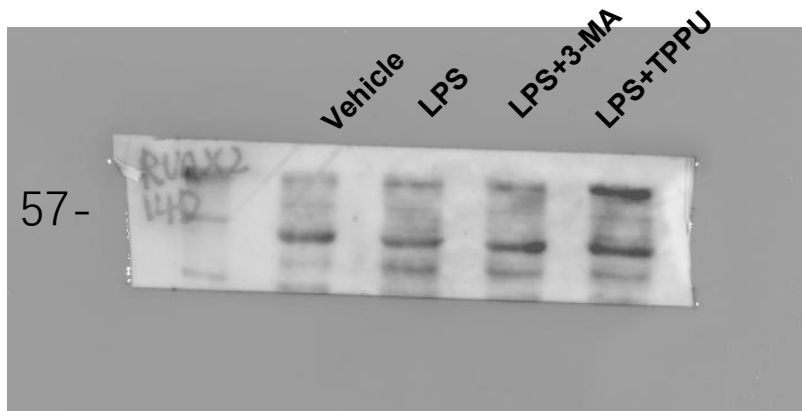
**Supplementary Fig. 2 Western blotting for the P62/SQSTM1 expression in hDPSCs.** hDPSCs treated with LPS, hDPSCs treated with LPS and 3MA, hDPSCs treated with LPS and TPPU following 48 h of osteogenic induction. Uncropped Western blot images are shown in Supplementary Fig. 6.



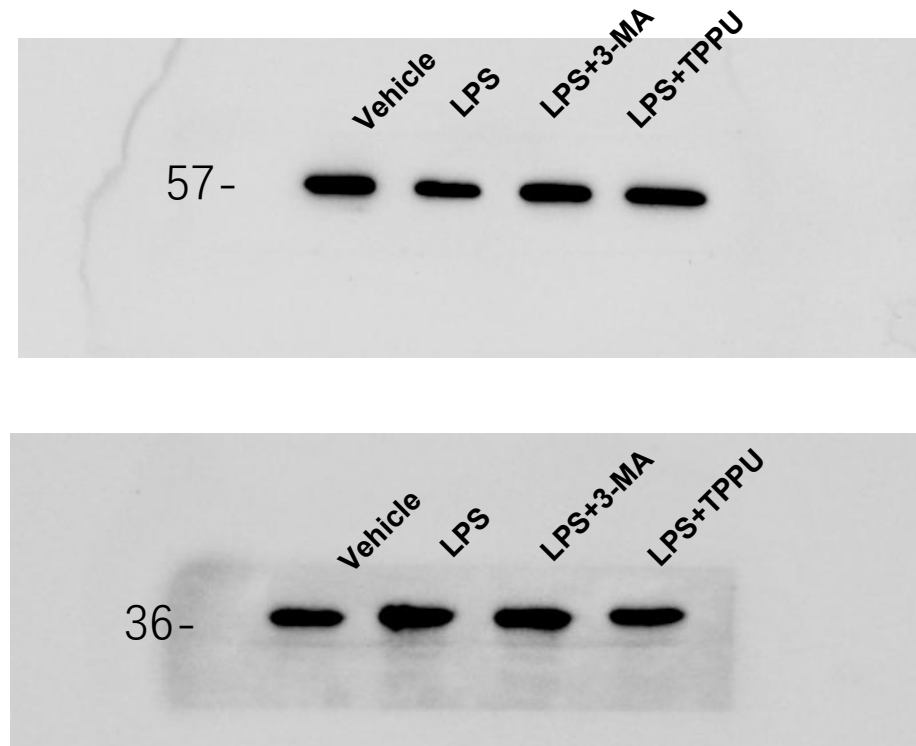
**Supplementary Fig. 3** mRNA expression of *Alp*, *Runx2*, *Dspp*, *Dmp1* was evaluated by RT-qPCR in hDPSCs. hDPSCs treated with LPS, LPS and Rapa, Rapa and TPPU following 7 d of osteogenic induction.



**Supplementary Fig. 4 Unprocessed western blots and/or gels.** Source Data for Figure2a (a); Source Data for Figure2c (b); Source Data for Figure2d (c)



**Supplementary Fig. 5 Unprocessed western blots and/or gels.** Source Data for Figure 3c



**Supplementary Fig. 6 Unprocessed western blots and/or gels.** Source Data for Supplementary Figure 2