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CORRECTION

Correction to: Menatetrenone facilitates hematopoietic cell generation in a manner that is dependent on human bone marrow mesenchymal stromal/stem cells

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In the original publication of the article, the figures 4 C, F and 5 B, C were published with unexpected appearance of dots. The corrected Figs. 4, 5 are given in this correction.

In addition, Y.M.'s grant should be "18K08323/Grants-in-Aid from the Ministry of Education, Culture, Sports, Science, and Technology in Japan".

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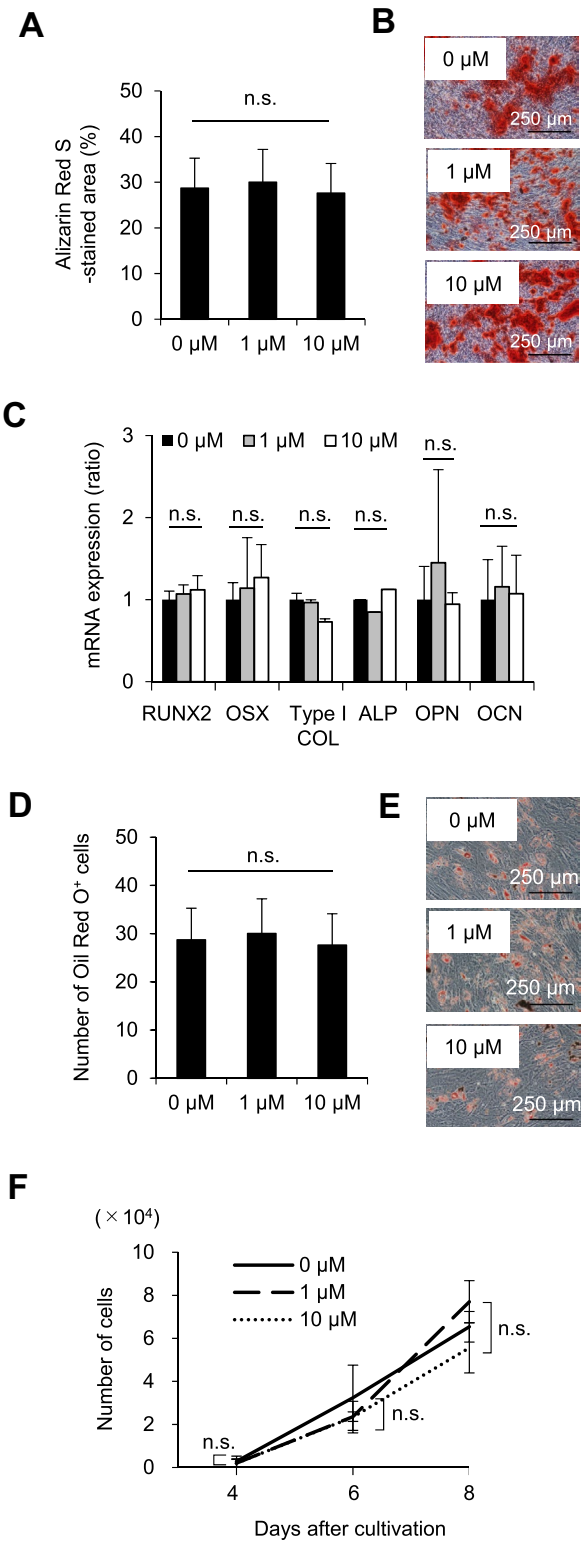

Fig. 4 Menatetrenone does not affect the differentiation or proliferation capabilities of BM-MSCs. **a**, **b** Osteogenic differentiation of BM-MSCs treated with or without menatetrenone, as assessed by Alizarin Red S staining (**a**). Red nodules indicate mineralization (**b**). Representative images are shown. **c** Expression levels of osteogenesis-associated genes in BM-MSCs treated with or without menatetrenone, as assessed by qRT-PCR. *RUNX2* runt-related transcription factor 2, *OSX* osterix, *COL* collagen, *ALP* alkaline phosphatase, *OPN* osteopontin, *OCN* osteocalcin. **d**, **e** Adipogenic differentiation of BM-MSCs treated with or without menatetrenone, as assessed by Oil Red O staining (**d**). Red-staining indicates fat-laden cells (**e**). Representative images are shown. **f** The proliferation of BM-MSCs treated with or without menatetrenone. **a**, **c**, **d**, **f** Data are represented as the mean ± SD; $n = 5$ per group; *n.s.* not significant

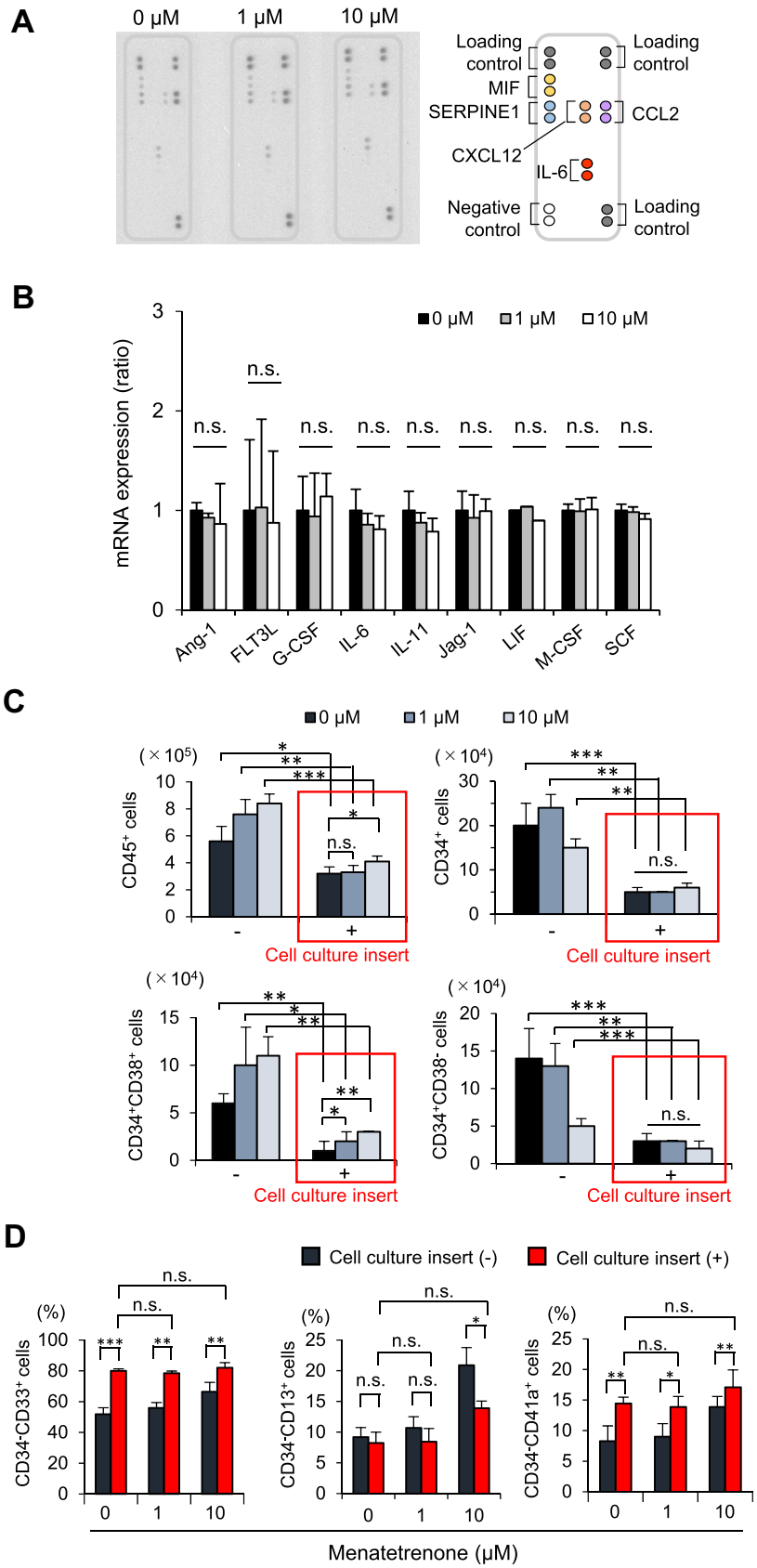

Fig. 5 Direct cell–cell interactions, but not soluble factors, mediate enhanced HPC expansion in co-cultures with menatetrenone-treated human BM-MSCs. **a** Cytokine arrays of supernatants from cultures of BM-MSCs treated with 0, 1, or 10 μM menatetrenone. *CCL2* C–C motif chemokine ligand 2, *CXCL12* C-X-C motif chemokine ligand 12, *MIF* macrophage migration inhibitory factor, *SERPINE1* serpin family E member 1, *IL-6* interleukin-6. **b** The mRNA expression levels of multiple hematopoiesis-associated genes in BM-MSCs treated with 0 μM (black bars), 1 μM (gray bars), or 10 μM (white bars) menatetrenone, as assessed by qRT-PCR; $n=5$ per group. *Ang-1* angiopoietin-1, *FLT3L* fms-related tyrosine kinase 3 ligand, *G-CSF* granulocyte colony-stimulating factor, *IL-6* interleukin-6, *IL-11* interleukin-11, *Jag-1* jagged-1, *LIF* leukemia inhibitory factor, *M-CSF* macrophage colony-stimulating factor, *SCF* stem cell factor. **c** Co-culture of $CD34^+$ HSPCs with BM-MSCs treated with 0 (black bars), 1 (blue bars), or 10 μM (gray bars) menatetrenone in the presence (+, red squares) or absence (−) of cell culture inserts ($n=4$ per group). Flow cytometry analyses showing the numbers of $CD45^+$ cells, $CD34^+$ cells, $CD34^+CD38^-$ cells, and $CD34^+CD38^+$ cells. **d** Co-culture of $CD34^+$ HSPCs with BM-MSCs treated with 0, 1, or 10 μM menatetrenone in the presence (red bars) or absence (black bars) of cell culture inserts ($n=4$ per group). Flow cytometry plots showing the percentages of $CD34^-CD33^+$ cells, $CD34^-CD13^+$ cells, and $CD34^-CD41a^+$ cells. **b**–**d** Data are presented as the mean ± SD; $^*P<0.05$; $^{**}P<0.01$; $^{***}P<0.001$; *n.s.* not significant