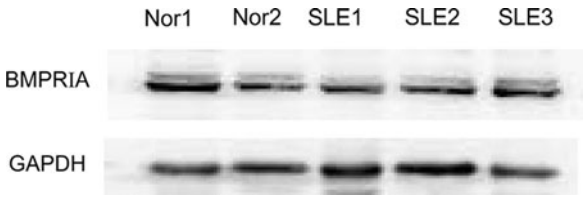
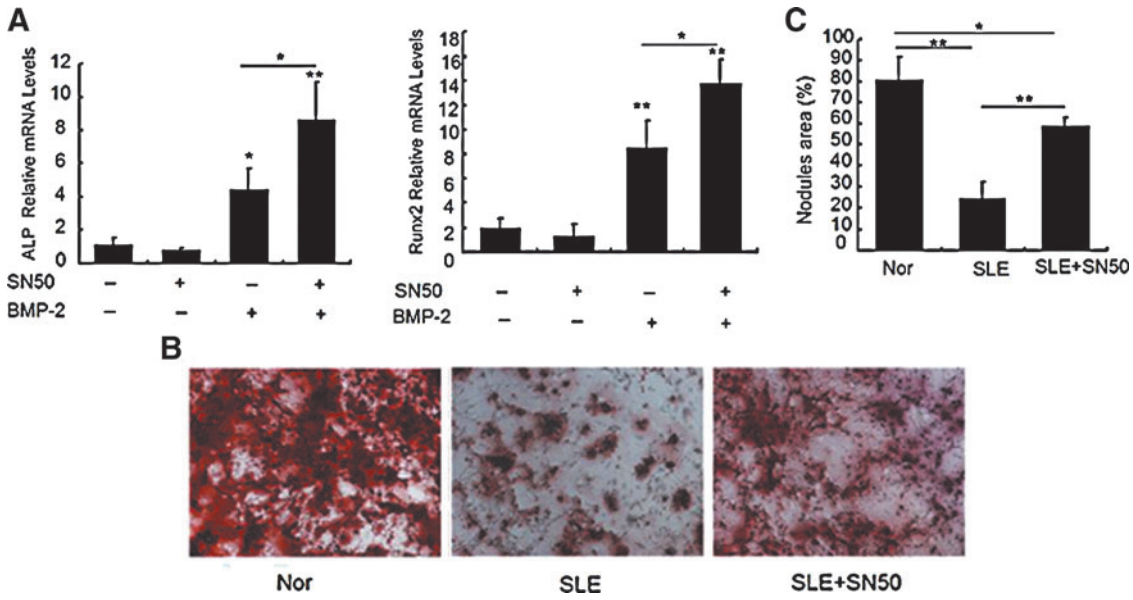
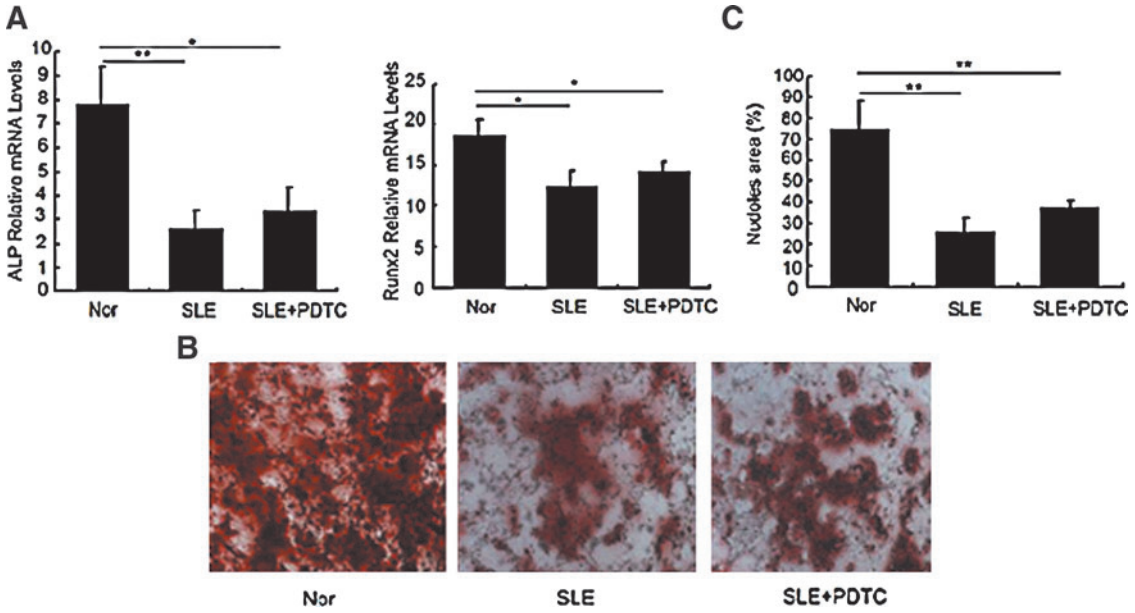
Supplementary Data



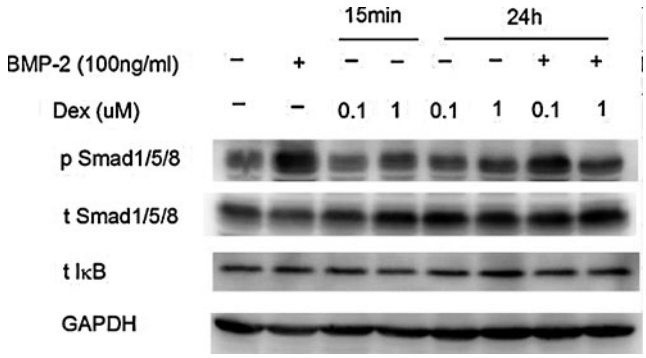
SUPPLEMENTARY FIG. S1. Western blotting analysis of BMPR-IA of BMMSCs from SLE patients. Nor, normal controls; SLE, systemic lupus erythematosus; BMP, bone morphogenetic protein; BMPR, BMP receptor; BMMSCs, bone marrow-derived mesenchymal stem cells.



SUPPLEMENTARY FIG. S2. Effect of SN50 on BMP-2-induced osteogenic differentiation in SLE-BMMSCs. **(A)** qRT-PCR analysis of *ALP* and *Runx2* mRNA levels. Cells were pretreated with SN50 (50 μg/mL) for 30 min and harvested 48 h after addition of BMP-2. *$P < 0.05$ and **$P < 0.01$ versus controls or between the indicated groups ($n = 3$). **(B)** Alizarin Red S staining of SLE-BMMSCs cultured in the OMB for 21 days in the presence or absence of SN50. **(C)** Quantity analysis of mineralization area. *$P < 0.05$ and **$P < 0.01$ between the indicated groups ($n = 3$). Nor, normal controls; SLE, systemic lupus erythematosus. BMP-2, bone morphogenetic protein-2; qRT-PCR, quantitative reverse transcriptase-polymerase chain reaction; ALP, alkaline phosphatase; OMB, osteogenic medium with BMP-2.



SUPPLEMENTARY FIG. S3. PDTC had no effect on the osteogenic differentiation of SLE-BMMSCs stimulated with ordinary osteogenic medium (Dex, GP, and AA). **(A)** qRT-PCR analysis of *ALP* and *Runx2* mRNA levels. Cells were treated with PDTC and ordinary osteogenic medium for 48 h. $^{*}P < 0.05$ and $^{**}P < 0.01$ between the indicated groups ($n = 3$). **(B)** Alizarin Red S staining of SLE-BMMSCs cultured in the ordinary osteogenic medium for 21 days in the presence or absence of PDTC. **(C)** Quantity analysis of mineralization area. $^{**}P < 0.01$ between the indicated groups ($n = 3$). Nor, normal controls; SLE, systemic lupus erythematosus; Dex, dexamethasone; GP, β-glycerophosphate; AA, ascorbic acid; PDTC, pyrollidine dithiocarbamate.



SUPPLEMENTARY FIG. S4. Effect of Dex on the activation of Smad1/5/8 and inhibitor κB (IκB). Cells were starved and treated with Dex for 15 min or 24 h, then stimulated with BMP-2 for 30 min.

Supplementary Table S1. Demographic Data and Clinical Features of Bone Marrow Donors of Systemic Lupus Erythematosus Patients for cDNA Microarray Analysis

Patient no.	*Sex/age (years)*	*Disease duration (months)*	*SLEDAI*	*Clinical manifestations*	*Therapy*
1	F/20	84	14	Nephritis, arthralgia, vasculitis	Pred, HCQ, CYC
2	F/44	12	10	Nephritis, arthralgia, cytopenia	Pred, HCQ, CYC
3	F/43	240	19	Nephritis, cytopenia, interstitial pneumonia	Pred, HCQ, CYC
4	F/42	6	20	Nephritis, cytopenia, interstitial pneumonia, polyserositis,	Pred, HCQ, CYC

SLEDAI, systemic lupus erythematosus disease activity index; Pred, prednisone; CYC, cyclophosphamide; HCQ, hydroxychloroquine.

Supplementary Table S2. Demographic Data and Clinical Features of Systemic Lupus Erythematosus Patients Tested for Serum Levels of Bone Morphogenetic Protein-2

Patient no.	*Sex Age (years)*	*Disease Duration (months)*	*SLEDAI*	*Clinical manifestations*	*Therapy*
1	F/41	40	11	Cytopenia, hemophagocytic lymphohistiocytosis	Pred, HCQ
2	F/18	48	4	Nephritis, cytopenia	Pred, LEF, HCQ
3	F/34	84	10	Nephritis, cytopenia	Pred, CYC, HCQ
4	F/52	122	15	Nephritis, cytopenia, interstitial pneumonia	Pred, CYC, MMF
5	F/54	120	10	Nephritis, seizures	Prod, CYC, HCQ
6	F/27	180	2	Cytopenia	Pred, CYC,HCQ
7	F/45	10	11	Nephritis, cytopenia	Pred, HCQ
8	M/13	15	9	Nephritis	Pred, HCQ
9	F/57	108	9	Nephritis, interstitial pneumonia	Pred, HCQ, CsA
10	F/46	17	9	Nephritis, cytopenia, arthralgia	Pred, HCQ
11	F/18	15	18	Nephritis, arthralgia,	Pred, CYC, HCQ
12	F/17	6	8	Cytopenia, arthralgia	Pred, HCQ
13	F/25	5	9	Nephritis	Pred, CYC, HCQ
14	F/27	36	2	Femur head necrosis	Pred, HCQ, HCQ
15	F/18	36	15	Vasculitis	Pred, HCQ
16	F/41	1	21	Nephritis, cytopenia, vasculitis	Pred, CYC, HCQ

Pred, prednisone; CYC, cyclophosphamide; HCQ, hydroxychloroquine; LEF, leflunomide; CsA, cyclospori.