

[Supplementary data to International Journal of Molecular Sciences]

**Pulsed Electromagnetic Field (PEMF) Treatment Ameliorates Murine Model
of Collagen-Induced Arthritis**

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Supplementary Figure S1. PEMF treatment scheme

Supplementary Figure S2. PEMF device

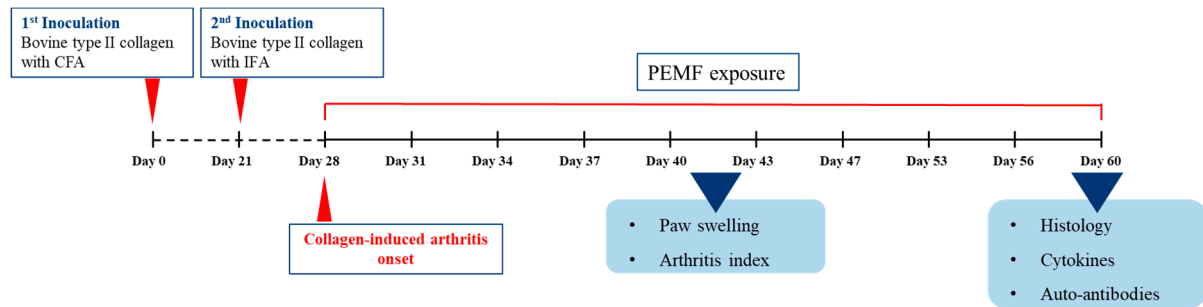
Supplementary Figure S3. Clinicopathologic severity scoring of arthritis in CIA mice

Supplementary Figure S4. Histologic inflammation scoring in CIA mice

Supplementary Figure S5. Cartilage damage scoring in CIA mice

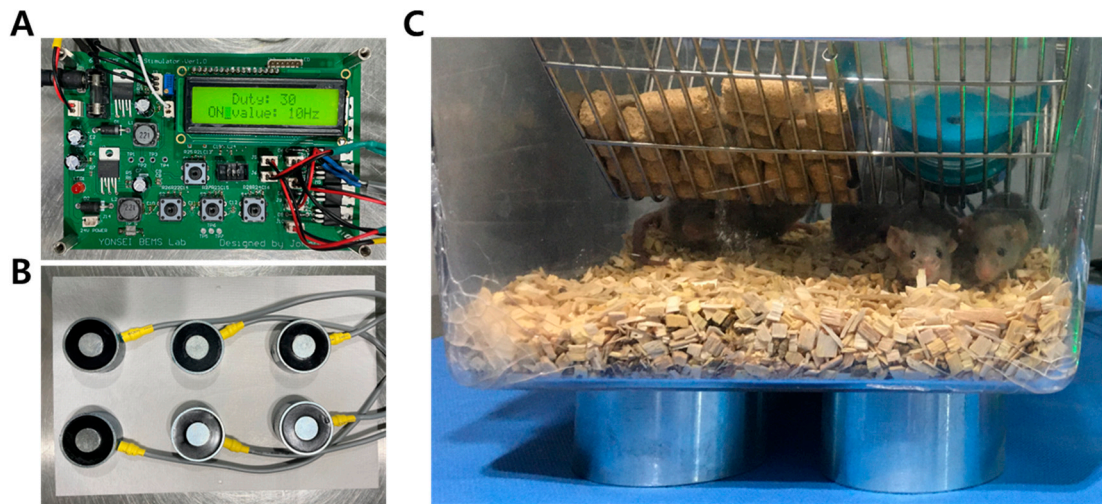
Supplementary Table S1. PEMF intensity relative to coil distance

Supplementary Table S2. Antibodies used in this study



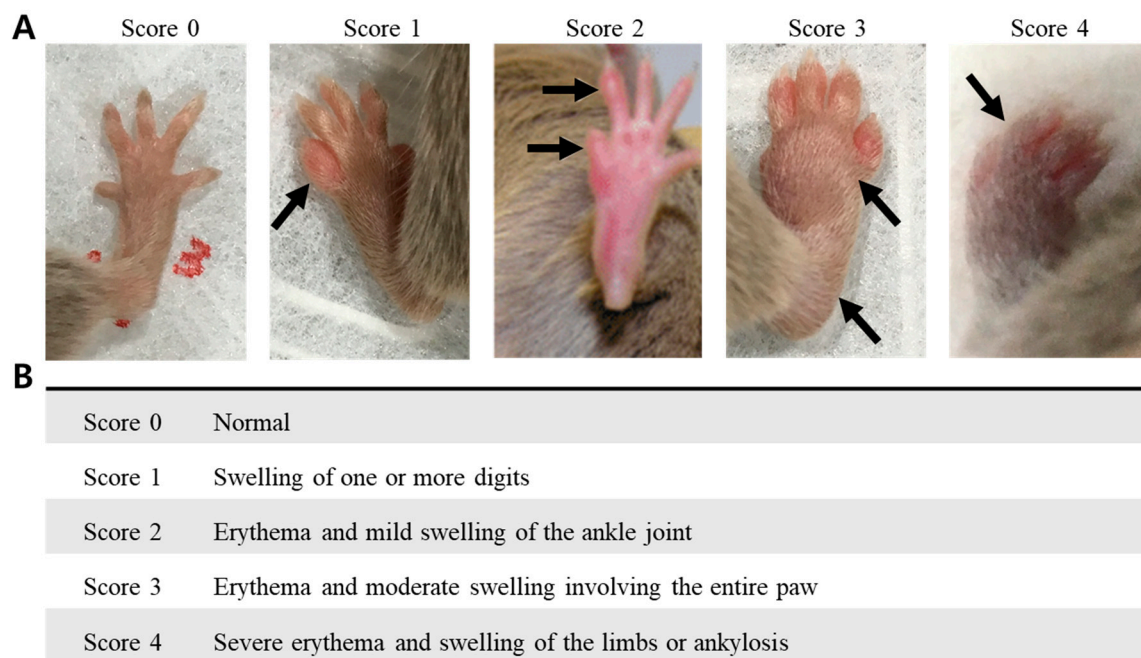
Supplementary Figure S1. PEMF treatment scheme

Mice were inoculated with bovine type II collagen and complete Freund's adjuvant (CFA) at day 0. At day 21, mice were inoculated with bovine type II collagen and incomplete Freund's adjuvant (IFA). At day 28, mice were continuously treated with PEMF (10 Hz or 75 Hz) until termination of the experiment (day 60). Clinicopathologic evaluation (paw swelling, arthritis index) was performed from day 28 every 2-3 days. At day 60, sera and tissues were harvested and examined.



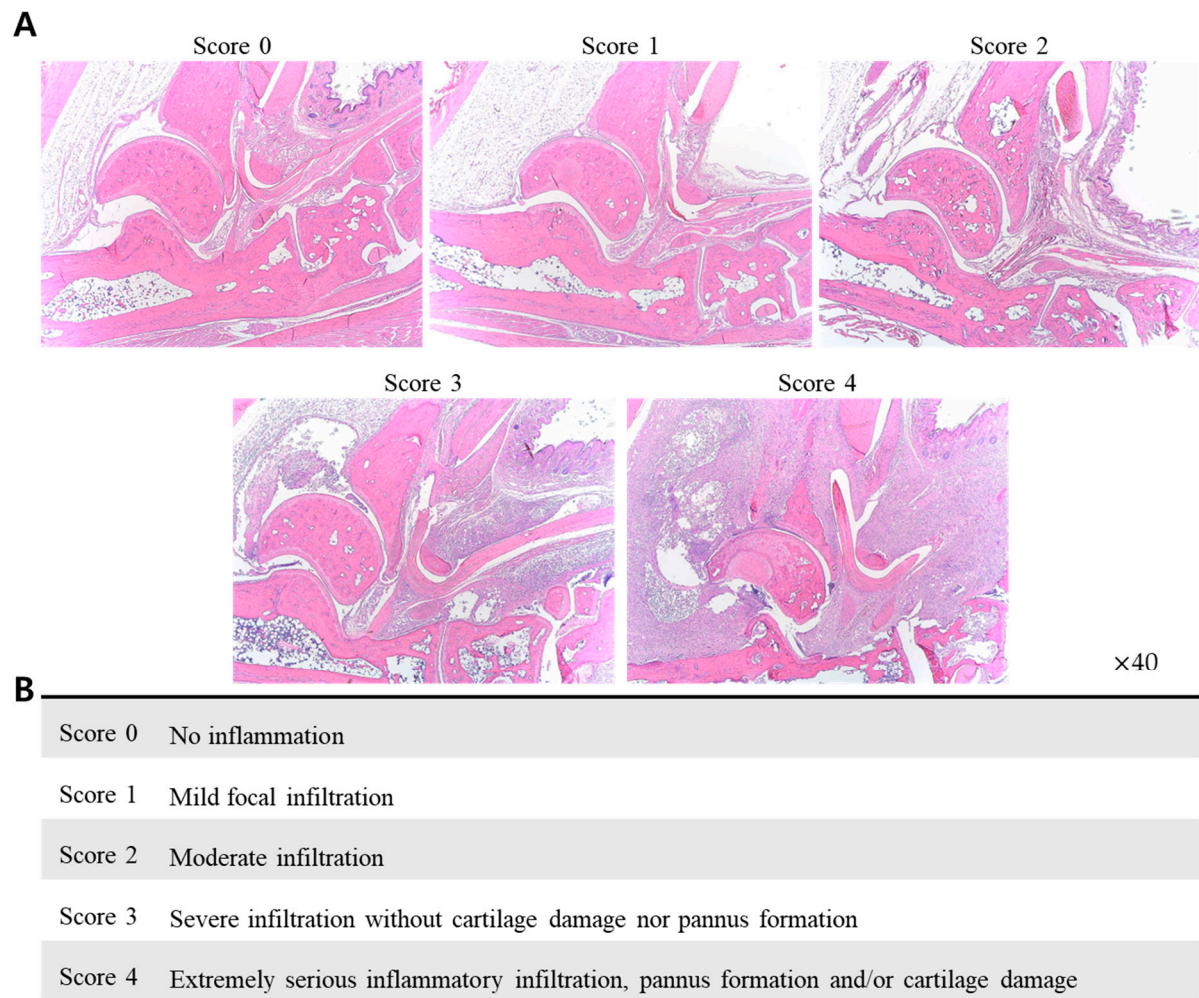
Supplementary Figure S2. PEMF device

(A) PEMF control panel. The control panel allows regulation of Hz. (B) PEMF generator. Six PEMF coils were placed under the mouse cage. (C) Placement of mouse cages on PEMF coils. The set of six cores were placed underneath the mouse housing cage and the mice were exposed to PEMF continuously.



Supplementary Figure S3. Clinicopathologic severity scoring of arthritis in CIA mice

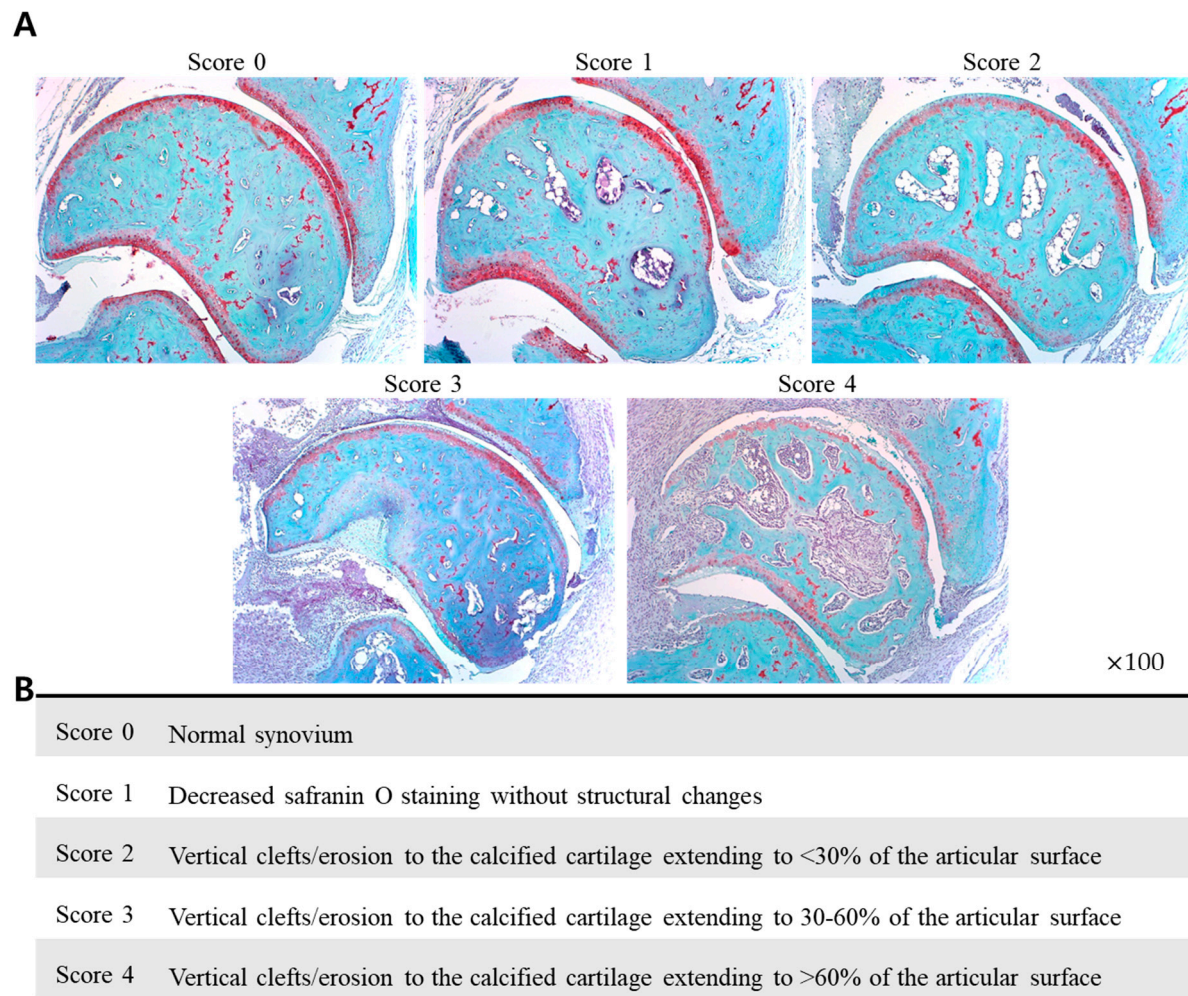
(A) Gross images of mouse paws after CIA induction. Representative images are shown. (B) Scoring scheme for assessing arthritis severity.



Supplementary Figure S4. Histologic inflammation scoring in CIA mice

(A) H&E stained sections of mouse arthritic regions of mouse paws. Representative images are shown.

(B) Scoring scheme for assessing arthritis severity of histologic sections.



Supplementary Figure S5. Cartilage damage scoring in CIA mice

(A) Safranin O stained sections of mouse arthritic regions of mouse paws. Representative images are shown. (B) Scoring scheme for assessing cartilage damage.

Supplementary Table S1. PEMF intensity relative to coil distance

Distance (cm)	Hertz (Hz)	Gauss (G)
0~1	10	262
	75	146.7
1~2	10	145
	75	85.9
2~3	10	46
	75	45.2

The intensity (Gauss) differs based on the Hertz setting and also the distance from the magnetic coil.
The intensity of PEMF from the distance from the coil.

Supplementary Table S2. Antibodies used in this study

Target protein	Concentration/ Dilution Factor	Company (Cat. No.)
IL-6	3 ug/ml	R&D Systems (AF-406)
IL-1 β	3 ug/ml	R&D Systems (AF-401)
TNF- α	2 ug/ml	R&D Systems (AF-410)
RANK	3 ug/ml	R&D Systems (AF-692)
RANKL	3 ug/ml	R&D Systems (AF-462)
IL-6R	1:300	Invitrogen (PA5-102425)
TNFR1	1:300	Invitrogen (33-0100)
Rabbit anti-Goat IgG (H&L)	1:500	Jackson ImmunoResearch (305-065-003)
Goat Anti-Mouse IgG (H&L)	1:500	Jackson ImmunoResearch (115-065-166)
Goat Anti-Rabbit IgG (H&L)	1:500	Jackson ImmunoResearch (111-065-003)