

CORRECTION

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Correction to: Cyr61 synthesis is induced by interleukin-6 and promotes migration and invasion of fibroblast-like synoviocytes in rheumatoid arthritis

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Following publication of the original article [1], a typesetting error occurred in the spacing of text in Figs. 1a, d, f, Fig. 3f, Fig. 4a–c, e, f, Fig. 5a and f.

The corrected figures are given in this correction article. The original article [1] has been corrected.

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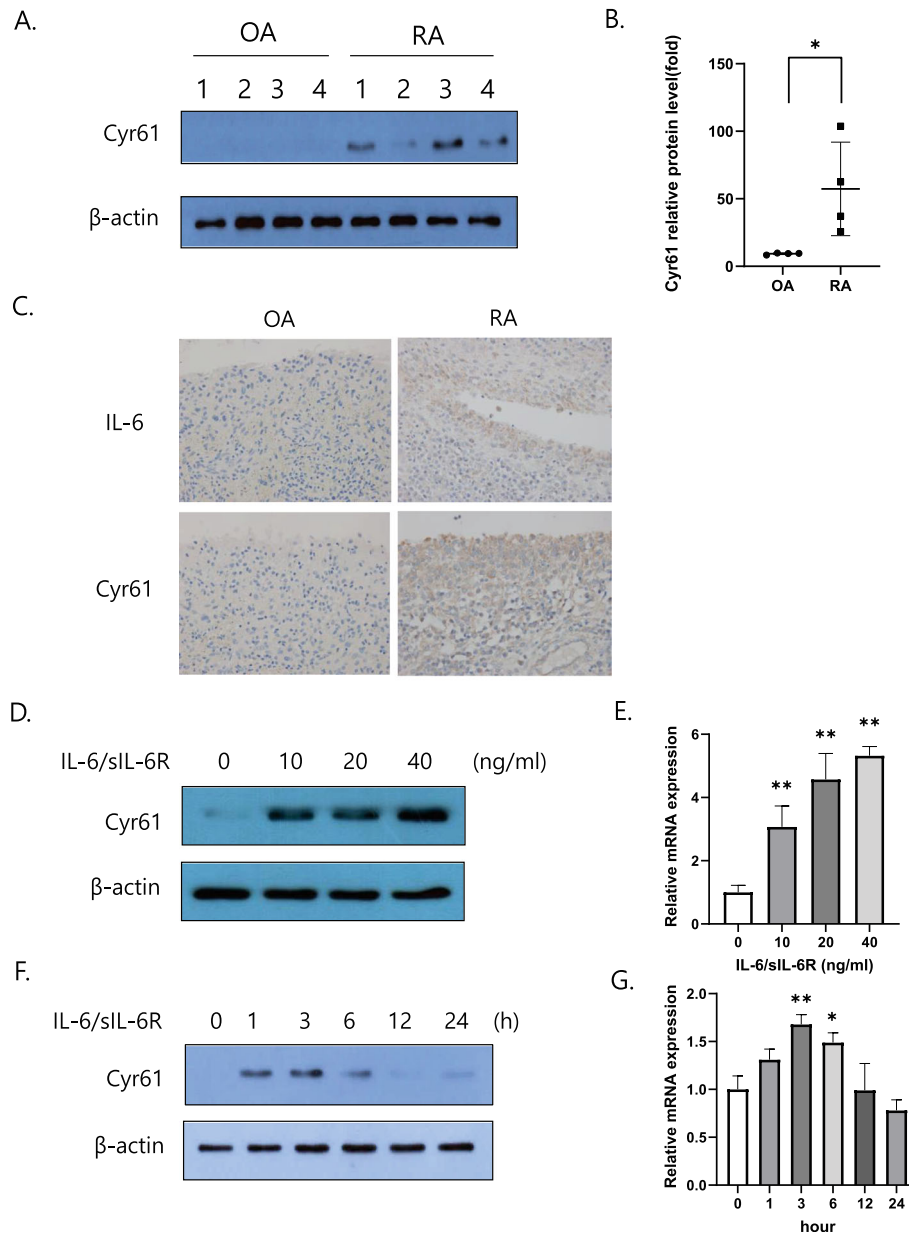


Fig. 1 Expression of IL-6 and Cyr61 in fibroblast-like synoviocytes (FLSs). **a, b** FLSs from osteoarthritis (OA; $n = 4$) or rheumatoid arthritis (RA; $n = 4$) patients. $*p < 0.05$ vs OA. **c** Synovial tissues from OA or RA patients. Original magnification $\times 400$. **d, e** RA FLSs stimulated by IL-6/sIL-6R for 2 h. **f, g** FLSs stimulated by IL-6/sIL-6R (20 ng/mL) for the indicated periods. **d–g** FLSs were incubated overnight in 1% FBS-containing medium before treatment with IL-6/sIL-6R. **a, b, d, f** Protein levels were determined by western blotting. **e, g** The mRNA levels of *Cyr61* were determined through real time polymerase chain reaction. Values are means (\pm standard deviation) of at least three independent experiments. $*p < 0.05$, $**p < 0.01$ vs untreated cells. IL-6, interleukin-6; sIL-6R, soluble IL-6 receptor; FBS, foetal bovine serum

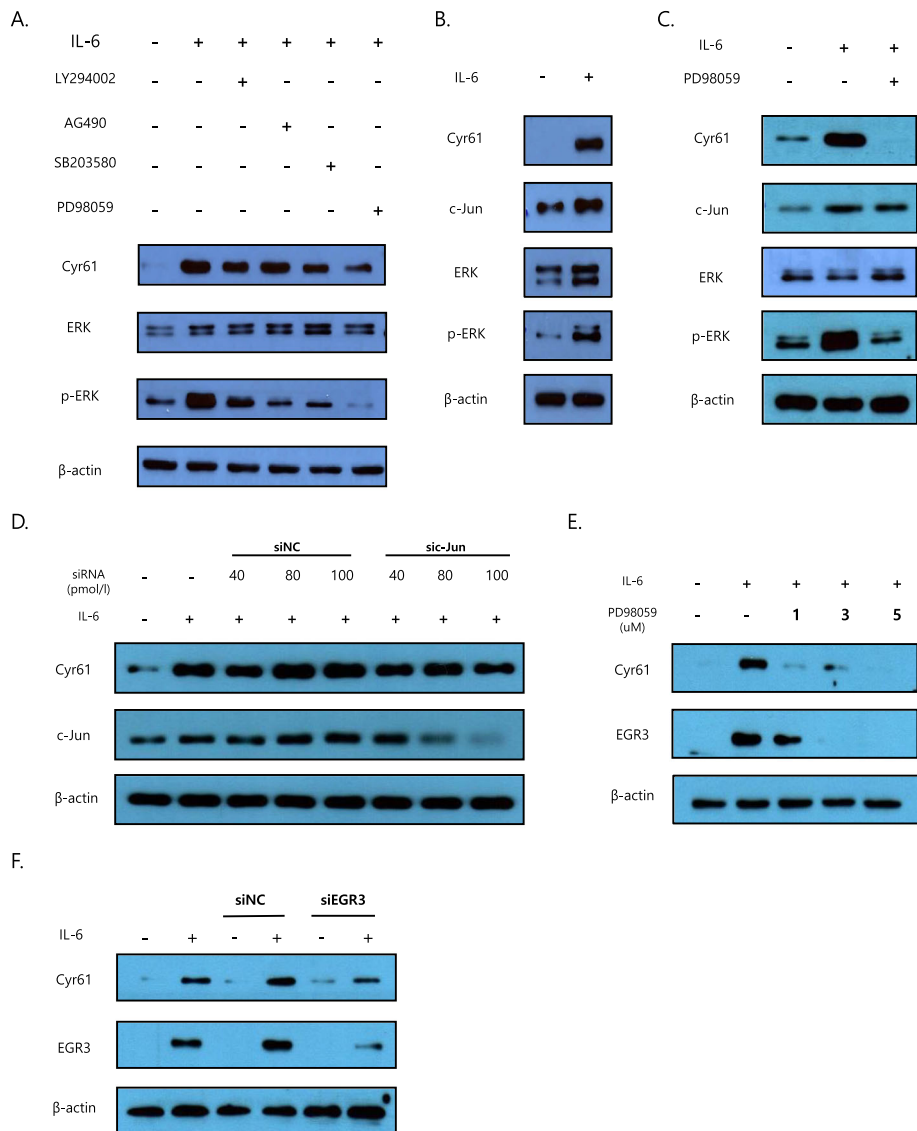


Fig. 3 Signalling pathways involved in IL-6-regulated protein synthesis of Cyr61 in rheumatoid arthritis-fibroblast-like synoviocytes (RA-FLSs). **a, c, e** Cells were pretreated with inhibitors for 2 h before IL-6 (20 ng/mL) stimulation for 2 h. LY294002 (10 μM): PI3K/AKT inhibitor, AG490 (50 μM): JAK2/STAT3 inhibitor, SB203580 (10 μM): p38 MAPK inhibitor, PD98059 (1 μM): ERK inhibitor. **d, f** RA-FLSs transfected with either small interfering RNA (c-Jun or EGR3) or siNC (control) (20 pmol/L) stimulated by IL-6 (20 ng/mL) for 2 h. Data are representative of at least three independent experiments. **a-f** Protein levels were determined by western blotting. FLSs were incubated overnight in 1% FBS-containing medium before treatment with IL-6/sIL-6R

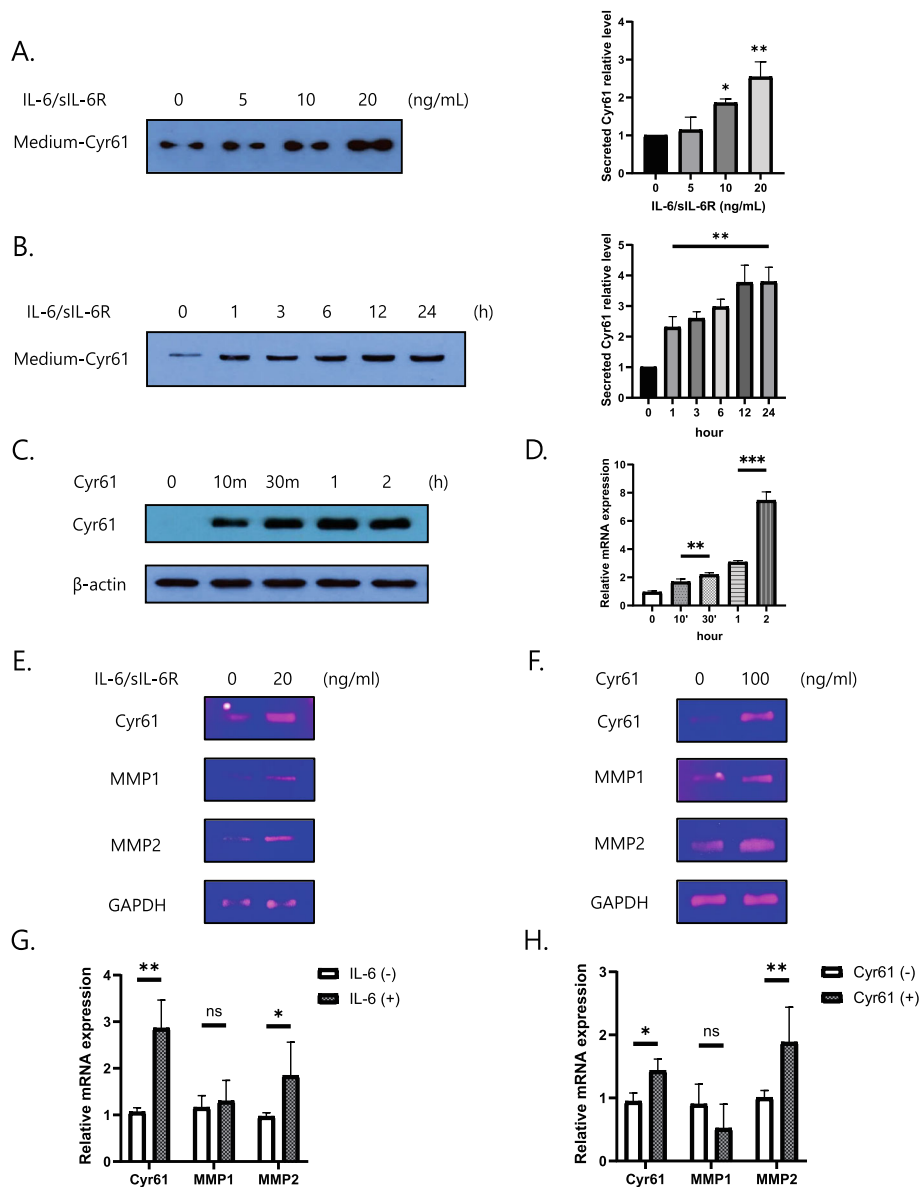


Fig. 4 Cyr61 secretion induced by IL-6. **a, b** Extracellular protein levels of Cyr61 in culture supernatants of IL-6-treated RA-FLSs measured by western blotting. **b** IL-6 (20 ng/mL). **c, d** FLSs stimulated by extracellular Cyr61 (100 ng/mL) for indicated time periods. **c** Protein levels were determined by western blotting. **d** The mRNA levels of *Cyr61* were determined through real time polymerase chain reaction. **e–h** The mRNA levels of *Cyr61*, *MMP1*, 2, and *GAPDH* induced by IL-6 (20 ng/mL) and extracellular Cyr61 protein (100 ng/mL) for 2 h. **e, f** The mRNA levels were determined by reverse-transcription polymerase chain reaction. **g, h** The mRNA levels were determined through real time polymerase chain reaction. Data are representative of at least three independent experiments. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

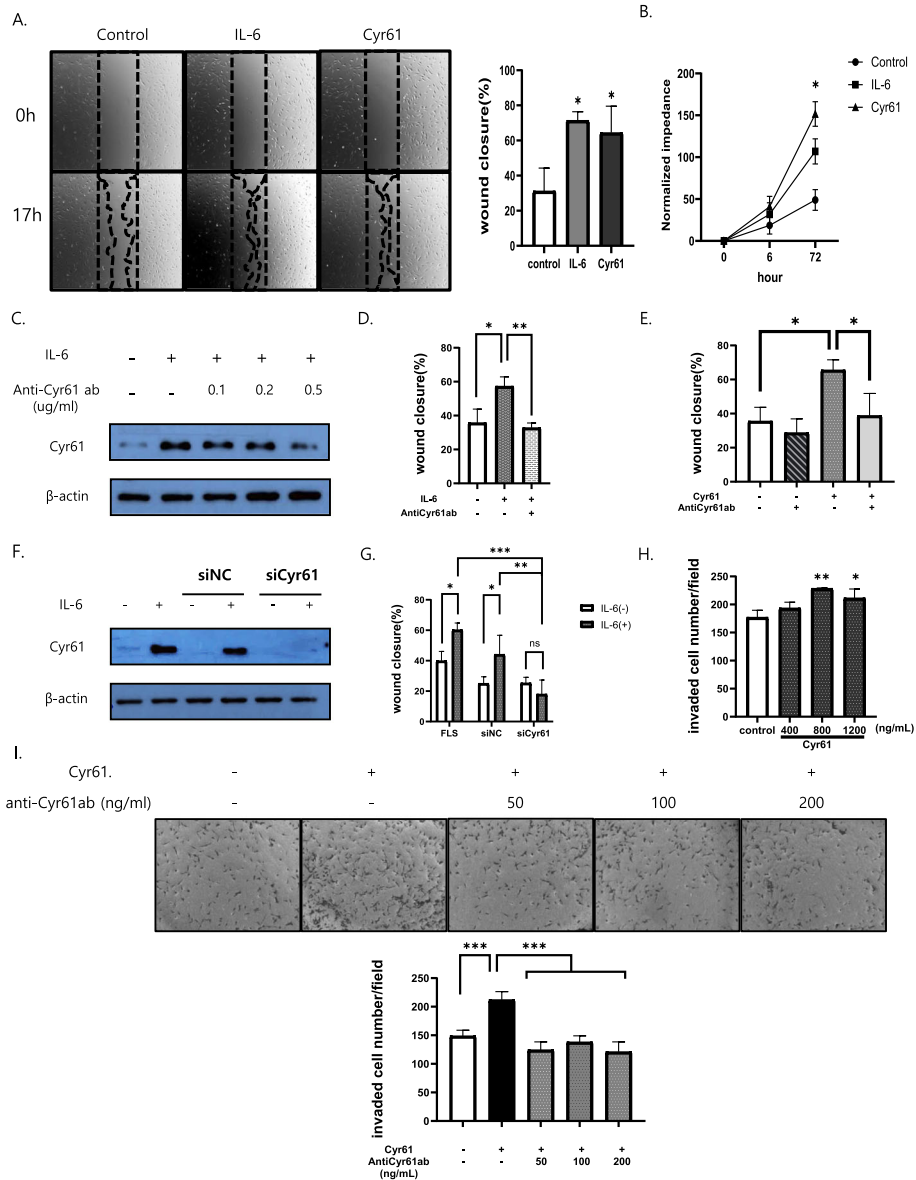


Fig. 5 Migration and invasion of rheumatoid arthritis-fibroblast-like synoviocytes (RA-FLS) promoted by IL-6 and Cyr61 secretion. **a, d, e, g** Wound-closure over 17 h. **b** ECIS proliferation analysis over 72 h. **c, f** Western blotting for Cyr61 protein detection. **h, i** Cyr61-stimulated invasion of RA-FLS in transwells over 24 h ± antiCyr61 ab. **f, g** transfection with 20 pmol/L of small-interfering Cyr61 RNA (siCyr61) or siNC (negative control). IL-6 for 17 h (**a, d, g**: 200 ng/mL); IL-6 for 2 h (**c, f**: 20 ng/mL); IL-6 and Cyr61 protein for 72 h (**b**: IL-6: 200 ng/mL, Cyr61 protein: 100 ng/mL) Cyr61 protein (**a, e**: 100 ng/mL; **i**: 800 ng/mL); antiCyr61 antibody (ab) for 2 h (**d**: 100 ng/mL; **e**: 50 ng/mL, **i**: 50, 100, 200 ng/mL) before IL-6 and Cyr61 protein treatment. **h** Original magnification × 10. Values are means (± standard deviation) of at least three independent experiments. **p* < 0.05, ***p* < 0.01, ****p* < 0.001