

Supplementary Information

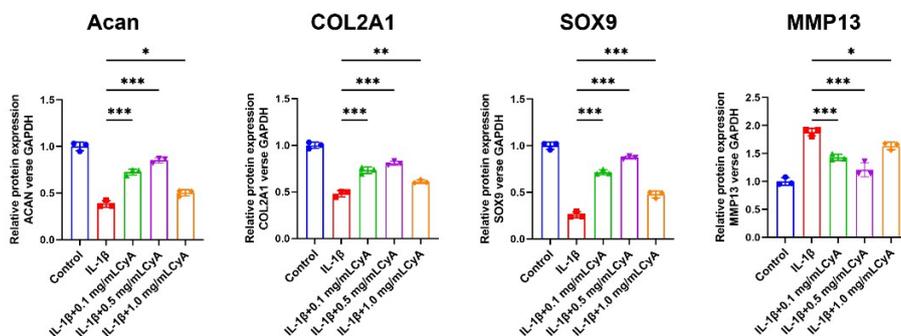


Fig. S1 Relative protein expression of Acan, COL2A1, SOX9, and MMP13 in human chondrocytes.

The significance is represented as $p < 0.05$ (*), $p < 0.01$ (**), $p < 0.001$ (***) and no significant difference (ns). Error bar represents for SD.

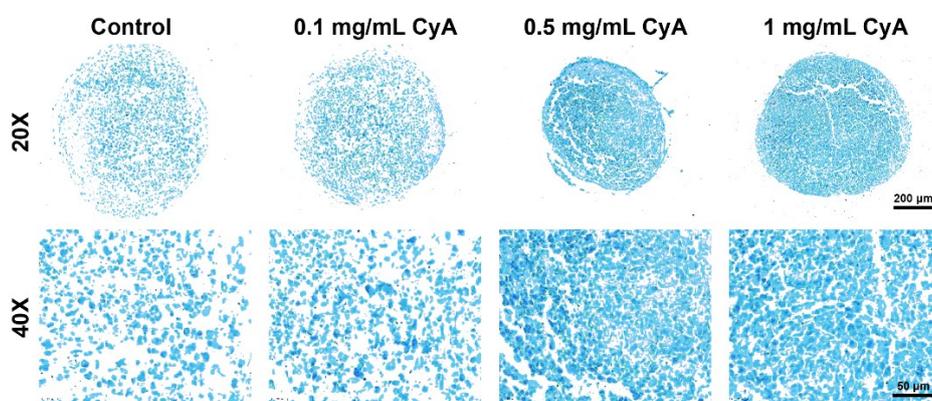
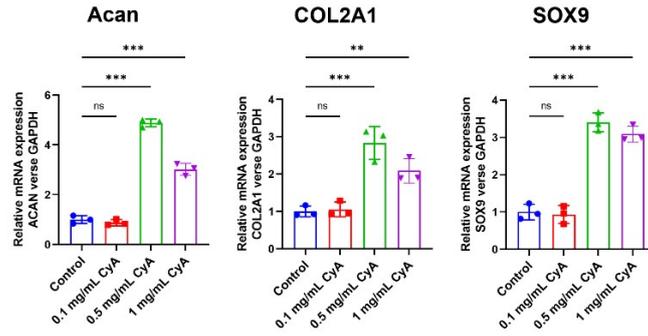


Fig. S2 Alcian Blue staining images of hBMSCs after 14 days in different groups.



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2 **Fig. S3** Relative mRNA expression of Acan, COL2A1, and SOX9 in hBMSCs after 14 days. The
 3 significance is represented as $p < 0.05$ (*), $p < 0.01$ (**), $p < 0.001$ (***) and no significant
 4 difference (ns). Error bar represents for SD.

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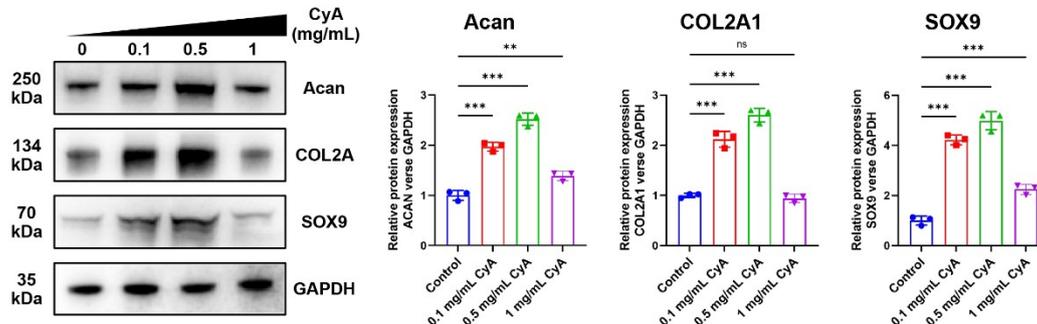
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12 **Fig. S4** Western blot bands and quantitative analysis of chondrogenic marker expression in
 13 hBMSCs after 14 days. The significance is represented as $p < 0.05$ (*), $p < 0.01$ (**), $p < 0.001$
 14 (***) and no significant difference (ns). Error bar represents for SD.

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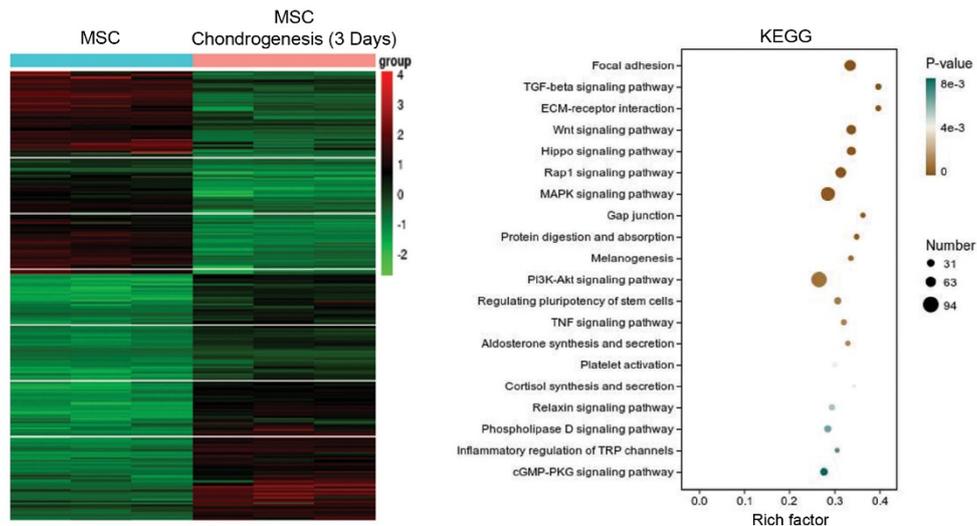
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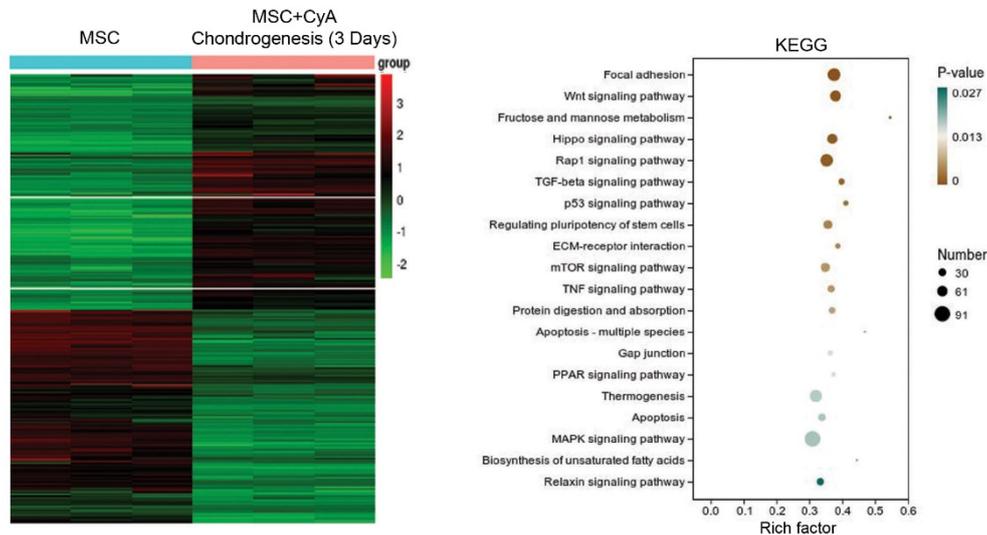


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2 **Fig. S5** Transcriptome analysis of MSC and MSC chondrogenesis (3 days) groups. MSC group:
 3 MSC cultured for 3 days. MSC chondrogenesis (3 days) group: MSC cultured for 3 days with
 4 chondrogenic induction medium. (A) Heat map analysis of differential genes in MSC and MSC
 5 chondrogenesis (3 days) groups. (B) KEGG enrichment analysis of differential genes in MSC and
 6 MSC chondrogenesis (3 days) groups.

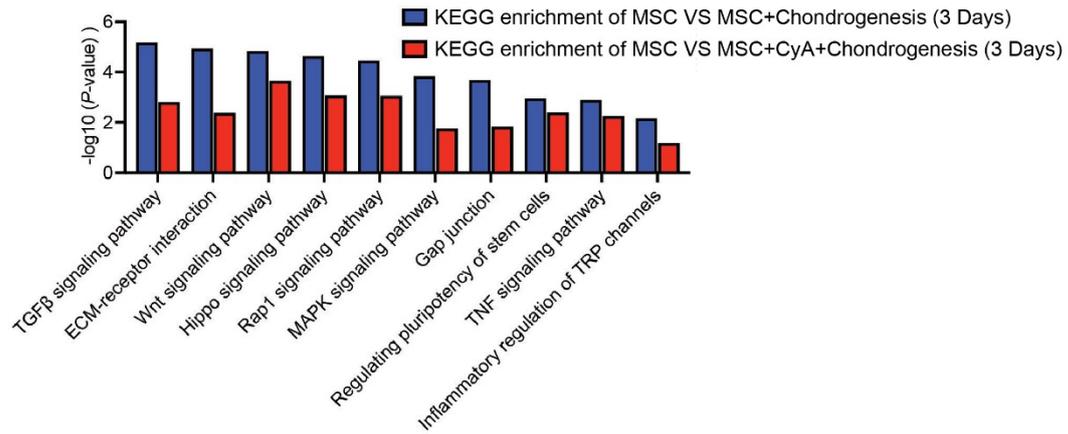
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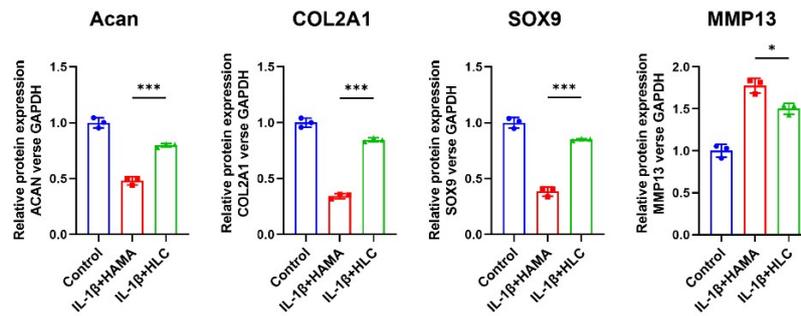
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10 **Fig. S6** Transcriptome analysis of MSC and MSC+CyA chondrogenesis (3 days) groups. MSC
 11 group: MSC cultured for 3 days. MSC+CyA chondrogenesis (3 days) group: MSC cultured for 3
 12 days with chondrogenic induction medium and 0.5 mg/mL CyA. (A) Heat map analysis of
 13 differential genes in MSC and MSC+CyA chondrogenesis (3 days) groups. (B) KEGG enrichment
 14 analysis of differential genes in MSC and MSC+CyA chondrogenesis (3 days) groups.



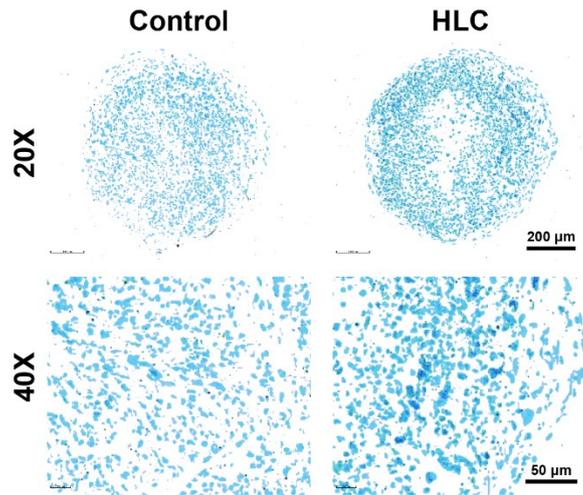
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2 **Fig. S7** Comparison of KEGG enrichment analysis.

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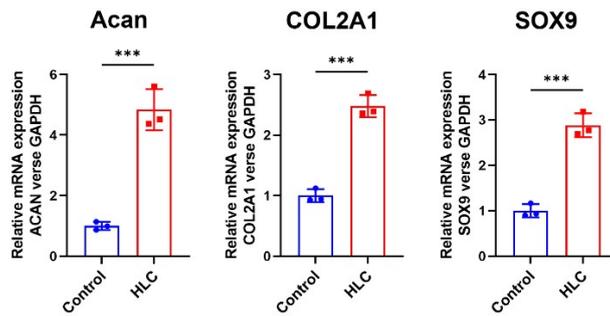
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10 **Fig. S8** Relative protein expression of Acan, COL2A1, SOX9, and MMP13 in human chondrocytes.
11 The significance is represented as $p < 0.05$ (*), $p < 0.01$ (**), $p < 0.001$ (***) and no significant
12 difference (ns). Error bar represents for SD.

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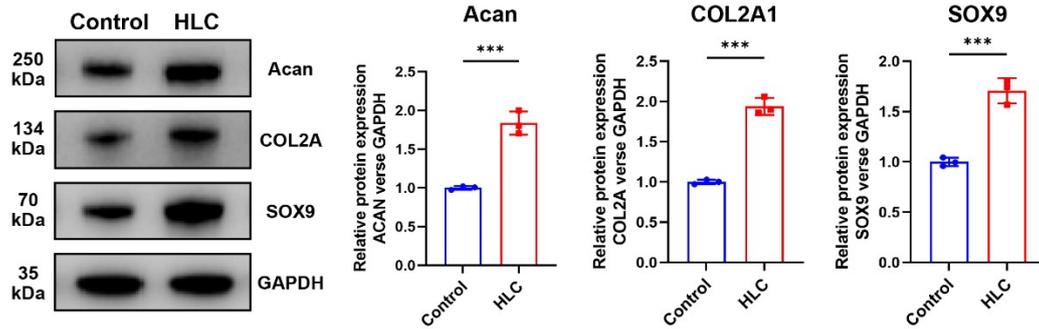
Fig. S9 Alcian Blue staining images of hBMSCs after 14 days in different groups.



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Fig. S10 Relative mRNA expression of Acan, COL2A1, and SOX9 in hBMSCs after 14 days. The significance is represented as $p < 0.05$ (*), $p < 0.01$ (**), $p < 0.001$ (***) and no significant difference (ns). Error bar represents for SD.

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2 **Fig. S11** Western blot bands and quantitative analysis of chondrogenic marker expression in
 3 hBMSCs after 14 days. The significance is represented as $p < 0.05$ (*), $p < 0.01$ (**), $p < 0.001$
 4 (***) and no significant difference (ns). Error bar represents for SD.

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14 **Table S1** qPCR primer sequences

Gene name	Primers
Human-GAPDH-F	CAGGAGGCATTGCTGATGAT
Human-GAPDH-R	GAAGGCTGGGGCTCATTT
Human-Acan-F	GTGCCTATCAGGACAAGGTCT
Human-Acan-R	GATGCCTTTCACCACGACTTC
Human-COL2A-F	CCTGGCAAAGATGGTGAGACAG
Human-COL2A-R	CCTGGTTTTCCACCTTCACCTG
Human-SOX9-F	AGGAAGCTCGCGGACCAGTAC
Human-SOX9-R	GGTGGTCCTTCTTGTGCTGCAC
Human-MMP13-F	CCTTGATGCCATTACCAGTCTCC
Human-MMP13-R	AAACAGCTCCGCATCAACCTGC

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