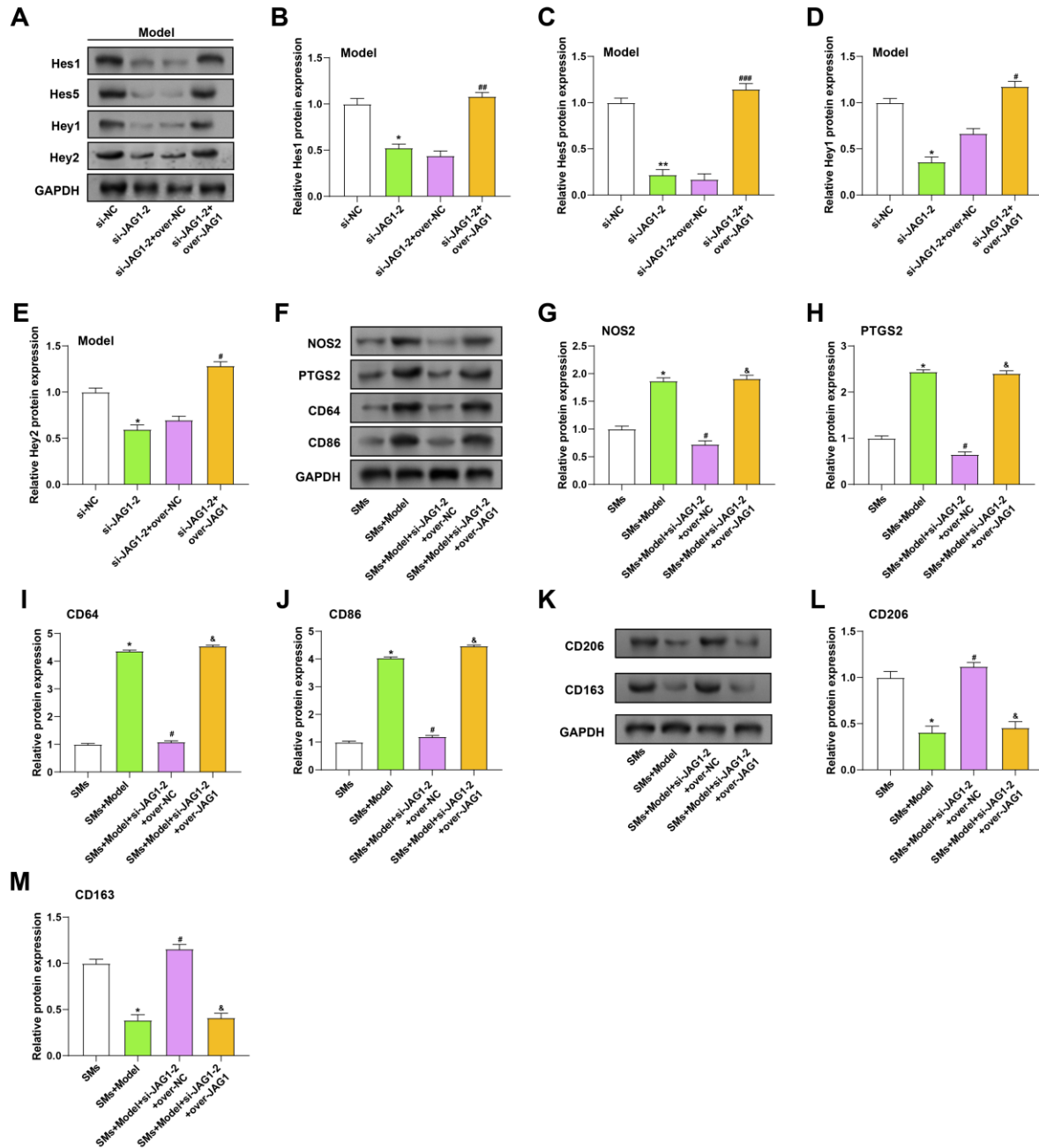


Supplementary Figure S1. *JAG1* promotes polarization of SMs to M1 in the OA model. **A–E** – Representative protein blot images of M1 marker NOS2, PTGS2, CD64, and CD86 protein expression in SM, SM + Model, SM + Model + si-NC, and SM + Model + si-*JAG1-2*. **F–H** – Representative protein blot images of M2 marker CD206 and CD163 protein expression in SM, SM + Model, SM + Model + si-NC, and SM + Model + si-*JAG1-2*. * $P < 0.05$ vs. SMs. # $P < 0.05$ vs. SMs + Model.

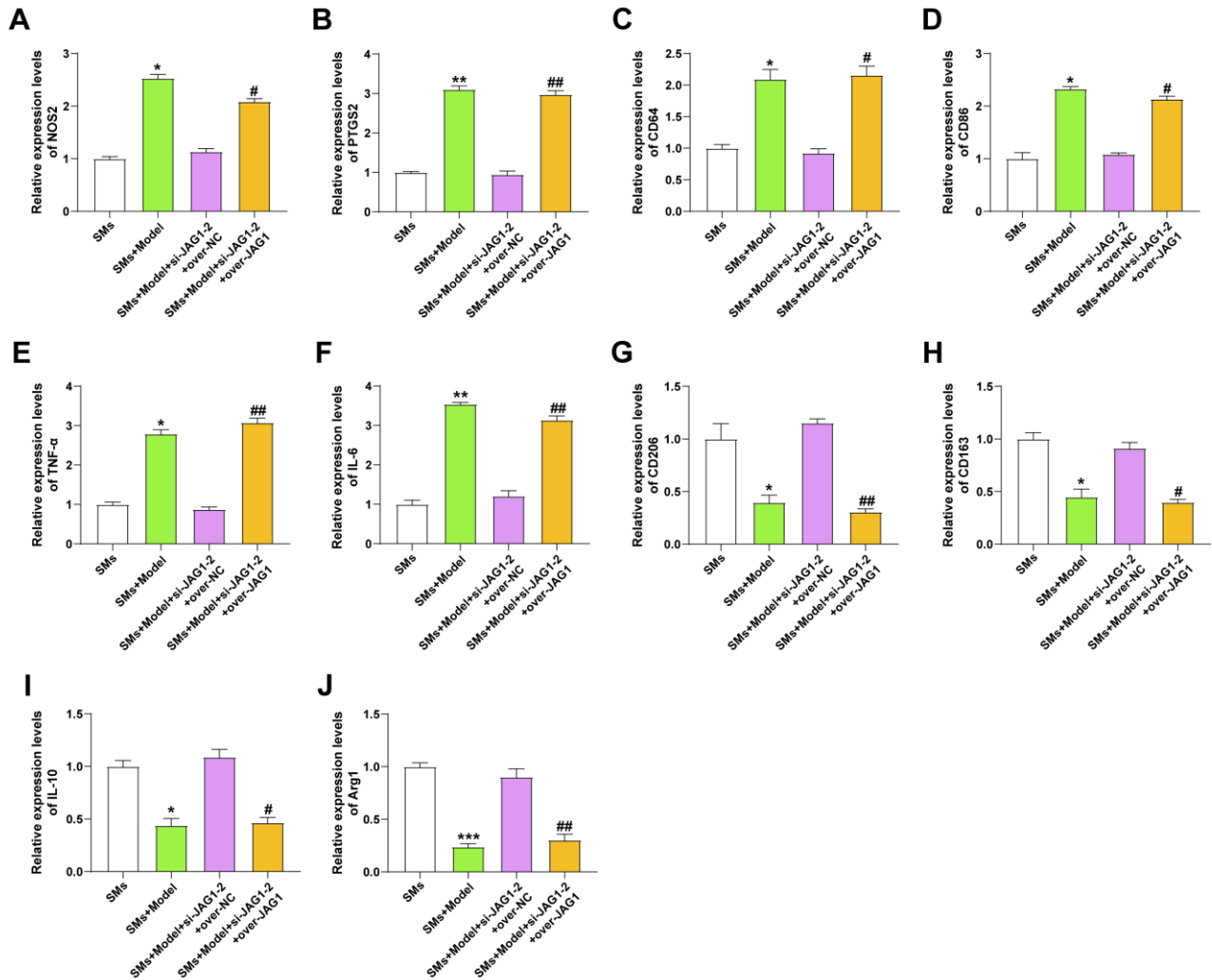
si-NC – small interfering RNA negative control; SMs – macrophages cultured alone; SMs + Model – macrophages co-cultured with OA model; SMs + Model + si-NC – macrophages co-cultured with OA model transfected with si-NC; SMs + Model + si-*JAG1-2* – macrophages co-cultured with OA model transfected with si-*JAG1-2*.



Supplementary Figure S2. *JAG1* promotes polarization of SMs to M1 by activating the Notch signaling pathway in the OA model.

A–E – Representative protein blot images of Hes1, Hes5, Hey1 and Hey2 protein expression in the OA model after transfection with si-JAG1-2 and si-JAG1-2+over-JAG1. * $P < 0.05$, ** $P < 0.01$ vs. si-NC. # $P < 0.05$, ## $P < 0.01$, ### $P < 0.001$ vs. si-JAG1-2 + over-NC. **F–M** – Representative protein blot images of M1 polarization marker and M2 polarization marker protein expression in SMs, SMs + Model, SMs + Model + si-JAG1-2 + over-NC, and SMs + Model + si-JAG1-2 + over-JAG1. * $P < 0.05$ vs. SMs. # $P < 0.05$ vs. SMs + Model. & $P < 0.001$ vs. SMs + Model + si-JAG1-2 + over-NC.

si-NC – small interfering RNA negative control; SMs – macrophages cultured alone; SMs + Model – macrophages co-cultured with OA model; SMs + Model + si-JAG1-2 + over-NC – macrophages co-cultured with OA model transfected with si-JAG1-2 and over-NC; SMs + Model + si-JAG1-2 + over-JAG1 – macrophages were co-cultured with OA models transfected with si-JAG1-2 and over-JAG1.



Supplementary Figure S3. JAG1 affects macrophage polarization by activating the Notch signaling pathway in the OA model. **A-J** – ELISA detected M1 markers (NOS2, PTGS2, CD64, CD86, IL-6, and TNF- α) and M2 markers (CD206, CD163, IL-10 and Arg1) expression. * $P < 0.05$ vs. SMs. # $P < 0.05$ vs. SMs + Model. & $P < 0.001$ vs. SMs + Model + si-*JAG1-2* + over-NC
 si-NC – small interfering RNA negative control; SMs – macrophages cultured alone; SMs + Model – macrophages co-cultured with OA model; SMs + Model + si-*JAG1-2* + over-NC – macrophages co-cultured with OA model transfected with si-*JAG1-2* and over-NC; SMs + Model + si-*JAG1-2* + over-*JAG1* – macrophages were co-cultured with OA models transfected with si-*JAG1-2* and over-*JAG1*.