

## Supplementary Dataset-Original Western Blot Images

### The Caspase-1-EGR4 axis drives acute myeloid leukemia progression by orchestrating macrophage repolarization

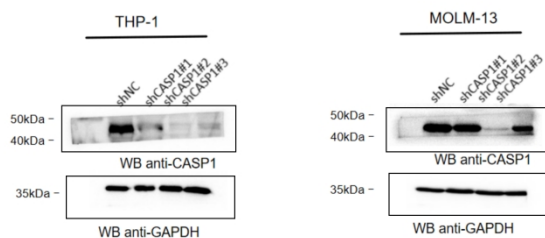
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This file includes: Original gels.

Figure1C



**Fig.1. Efficient CASP1 KD in THP-1 and MOLM-13 cells. (C) Evaluation of CASP1-KD efficiency by western blot .**

Figure 3A

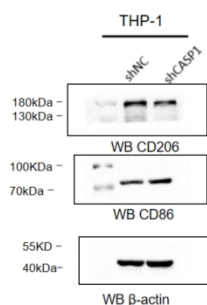
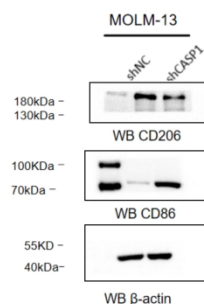


Figure 3B



**Fig.3. CASP1 KD in AML cells alters macrophage polarization at the protein level. (A,B)** Representative western blot results showing the expression of M1 (CD86) and M2 (CD206) markers in macrophages treated with conditioned medium (CM) from shCASP1 or shNC AML cells.

Figure 5F

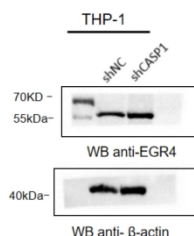
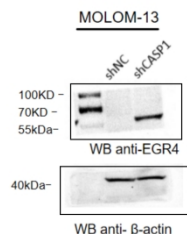


Figure 5G



**Fig.5. Transcriptomic profiling identifies EGR4 as a key transcriptional target upregulated by CASP1 KD in AML cells.(F,G)** EGR4 protein expression was assessed by western blot in THP-1 and MOLM-13 cells.

Figure 6B

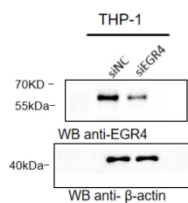


Figure 6D

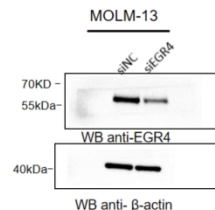


Figure 6E

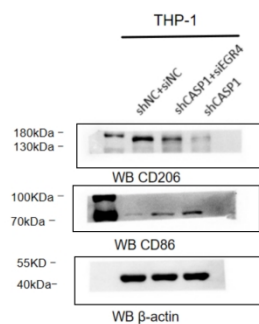
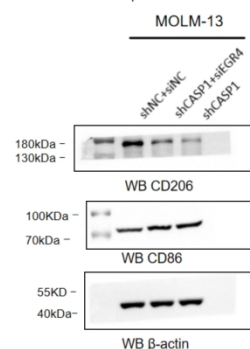


Figure 6F



**Fig. 6. EGR4 KD rescues the macrophage polarization shift induced by CASP1 KD.(B,D)** Representative immunoblot of EGR4 protein expression. (E,F) Representative immunoblots for CD206 and CD86 in macrophages following stimulation with CM from the indicated AML cell groups.

Figure 7A

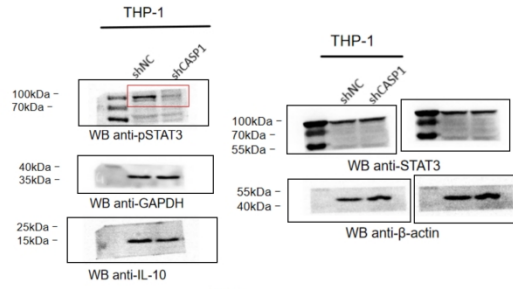


Figure 7B

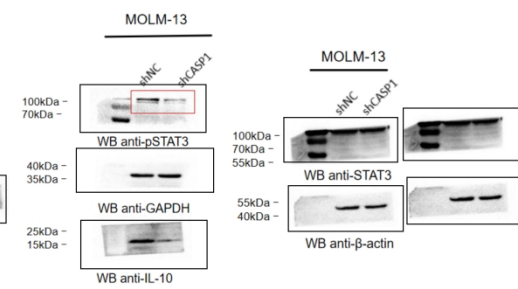


Figure 7C

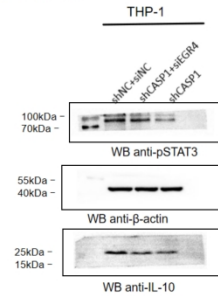
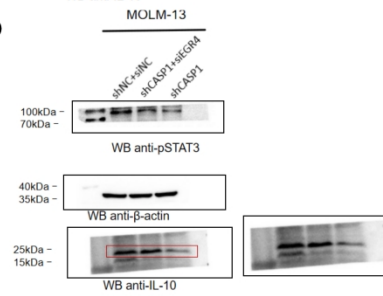


Figure 7D



**Fig.7. Mechanism of the CASP1-EGR4 axis through the IL-10/STAT3 pathway in macrophages.** (A, B) Assessment of IL-10 and p-STAT3 by western blot in macrophages treated with CM from (A) THP-1 or (B) MOLM-13 cells expressing shNC or shCASP1, revealing a coordinate decrease following CASP1 KD. (C,D) Assessment of pathway recovery by western blot, showing partial restoration of IL-10 and p-STAT3 in macrophages after CM treatment from (C) THP-1 or (D) MOLM-13 models with dual CASP1 KD and EGR4 rescue.