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Supplemental Figure 1. Breeding strategy and tissue genotyping of different conditional ARKO mice. Female fAR mice were bred to male mice carrying the *cre* transgene under the control of different promoters. Various tissues were harvested from conditional ARKO mice and digested with proteinase K. Genomic DNA was extracted from tissues by phenol/chloroform and subjected to PCR to detect AR genotype as previously described (1). **(A)** General ARKO (GARKO) mice were generated by using male ACTBCre mice (*β-actin* promoter-driven *Cre*) (1). **(B)** Myeloid-specific ARKO (MARKO) mice were generated by using male LyzCre mice (*Lysozyme M* promoter-driven *Cre*) (2). # The genotyping result here is the same gel as in Figure 2C. **(C)** Keratinocyte-specific ARKO (KARKO) mice were generated by using male K5Cre mice (*Keratin 5* promoter-driven *Cre*) (3). **(D)** Fibroblast-specific ARKO (FARKO) mice were generated by using male Fsp1Cre mice (*Fsp1* promoter-driven *Cre*) (4). Sk, skin; Lv, liver; Ms, muscle; Ht, heart; Ln, lung; Ad, adipose; Bn, brain; Sp, spleen; Th, thymus; Ta, tail; BM, bone marrow; D3W, day 3 wound; Te, testis; Bd, bladder.

Supplemental Figure 2. **Collagen deposition is similar between FARKO and WT mice. (A)** Day 10 wounds from FARKO and WT mice were harvested and subjected to paraffin sectioning and Mason's Trichrome staining to detect collagen deposition in granulation tissues. Collagen is indicated by blue color, and circles indicate granulation tissues. Bar=200 μm. **(B)** Relative collagen deposition in the granulation tissues were determined by ImageJ software and compared to the collagen level in the adjacent dermis. Data are mean±SEM, n=8-9.

Supplemental Figure 3. Inflammatory mediator expression in MARKO mice. Day 3 wound tissues were harvested from WT and MARKO mice. Proteins were extracted from wound tissues

and subjected to ELISA to detect the expression of IL-6, IL-1β, MCP-1, active and total TGFβ1. Data are mean±SEM, n=5.

Supplemental Figure 4. **Construction of reporter plasmids with or without putative AREs in murine CCR2 and TNFα promoter.** Putative AREs were found in the murine **(A)** CCR2 and **(B)** TNFα promoter region. **(A)** The reporter plasmid, pGL3-mCCR2, contains -2058 to +27 region of CCR2 promoter, which includes a putative ARE. **(B)** pGL3-TNF (-1203 to +122) contains the 5′-UTR of TNFα promoter that includes the putative AREs. pGL3-TNF (-1203 to +2) does not contain the 5′-UTR region.

Supplemental Figure 5. **(A)** Local expression of MCP-1 is increased in FARKO compared to WT wounds. Proteins from day 3 wounds of WT and FARKO mice were extracted and subjected to ELISA to detect the expression of MCP-1. Data are mean±SEM, n=4-6. **(B)** Proposed mechanisms for how AR regulates re-epithelialization. AR in keratinocytes is important for promoting their migration, whereas AR in dermal fibroblasts suppresses MCP-1 expression and thereby indirectly inhibits re-epithelialization, as MCP-1 appears to be a positive regulator of re-epithelialization.

Supplemental Figure 6. **Proposed mechanisms for how AR regulates collagen deposition.** Macrophage AR enhances TNFα production, which in turn promotes the activities of proteinases (eg. collagenase) and their regulators. Active proteinases then increase collagen degradation. On the other hand, TNFα can also suppress TGFβ-induced collagen synthesis from fibroblasts.

Supplemental Figure 7. **Monocyte/macrophage population is reduced in GARKO compared to WT bone marrow.** Bone marrow cells were harvested from male GARKO and

WT mice, and red blood cells (RBC) were removed by RBC lysis buffer. Flow cytometry was used to detect monocyte/macrophage population using CD11b and F4/80 as markers. The percentage of monocytes ($CD11b^{+}F4/80^{+}$) in the bone marrow cells of GARKO mice was normalized to that of WT mice, which is set at 100%. Data are mean±SD, n=4.

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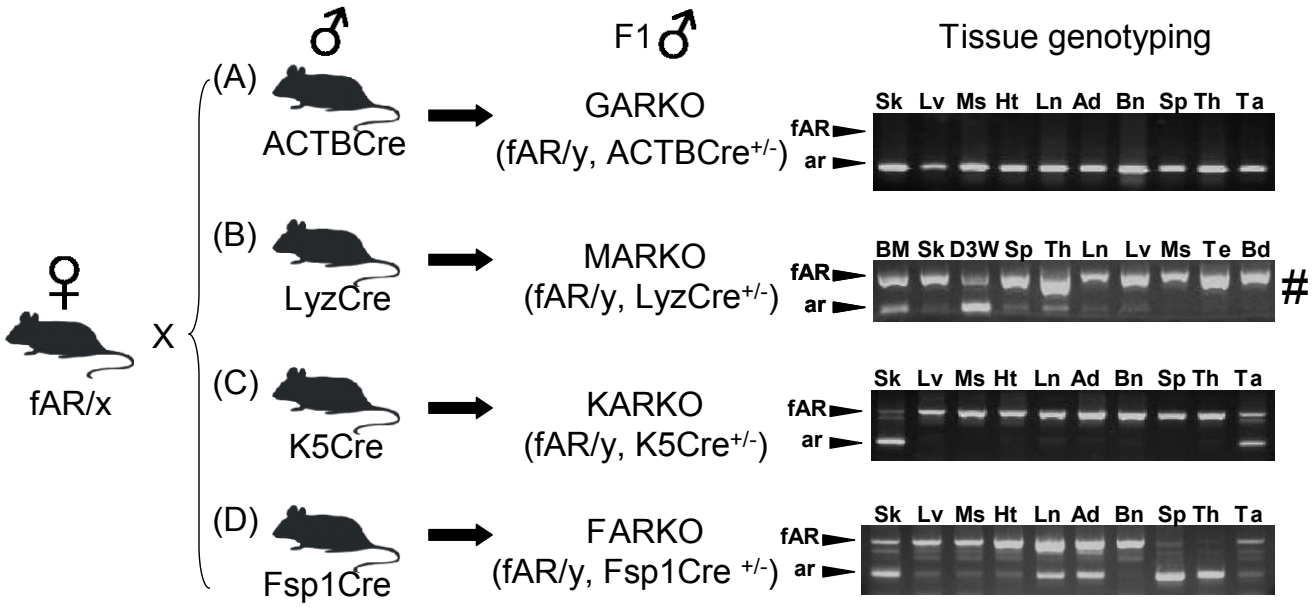
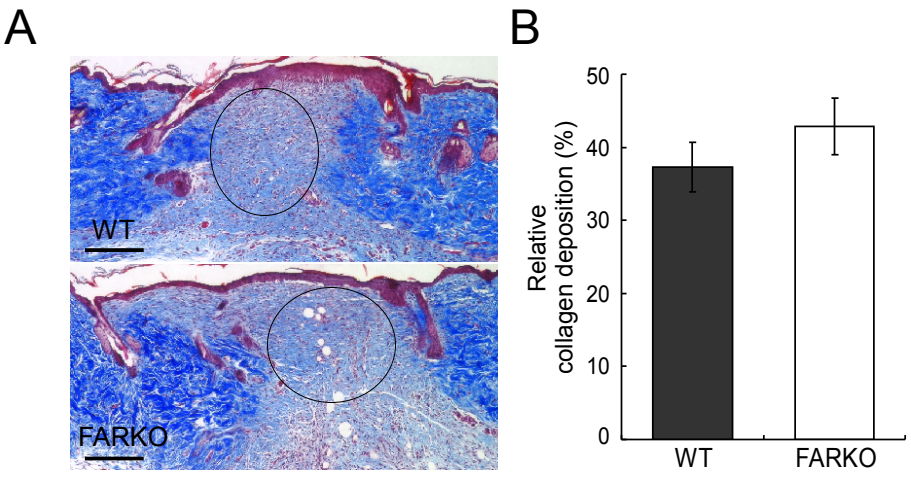


Supplemental Fig. 2 Lai et al.



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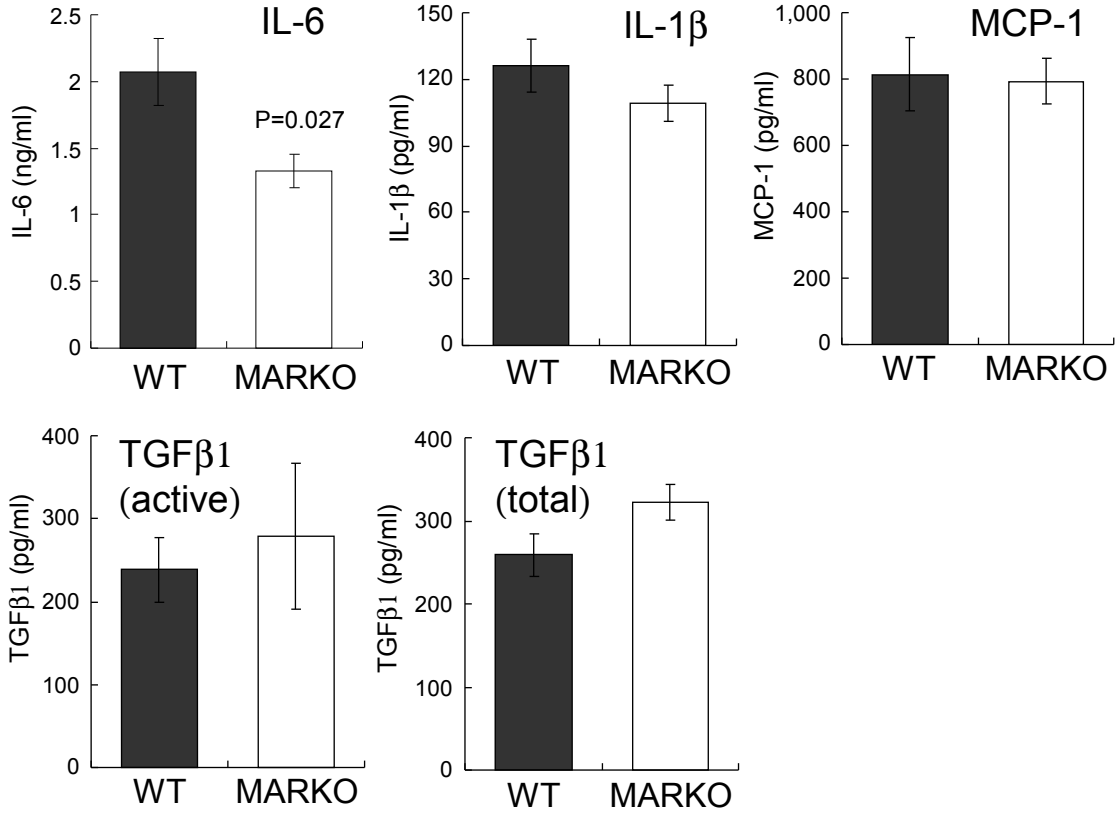

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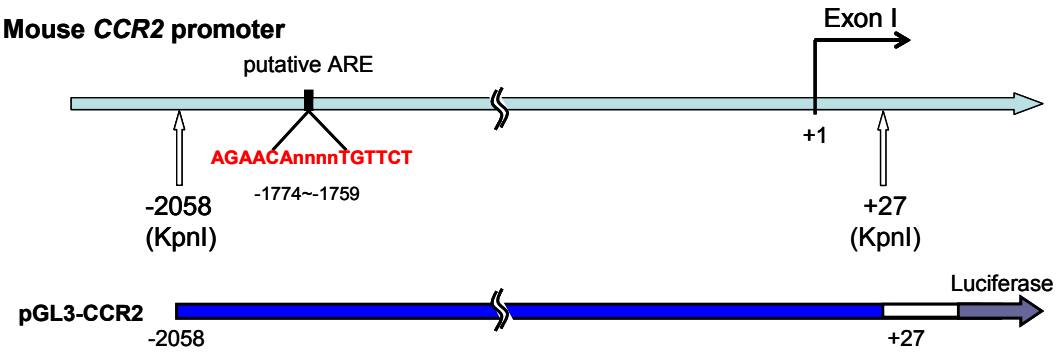
A



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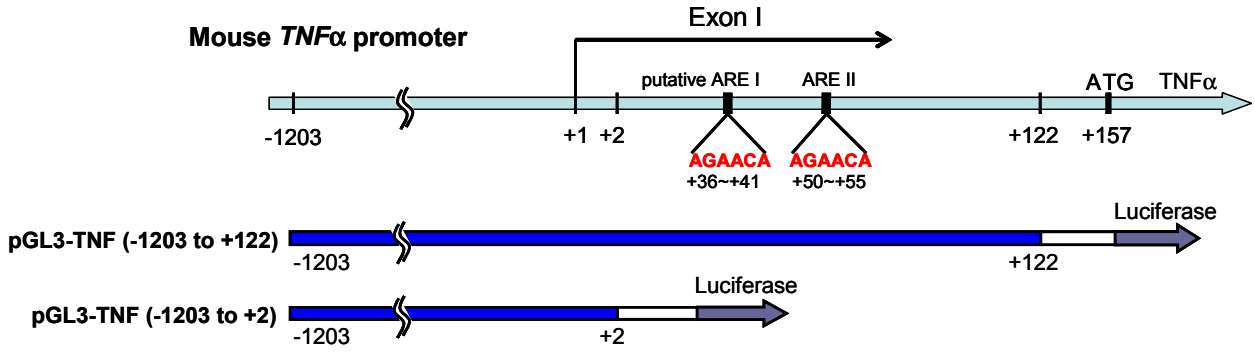

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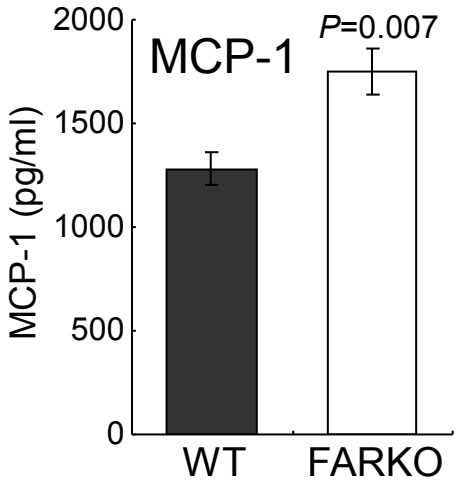

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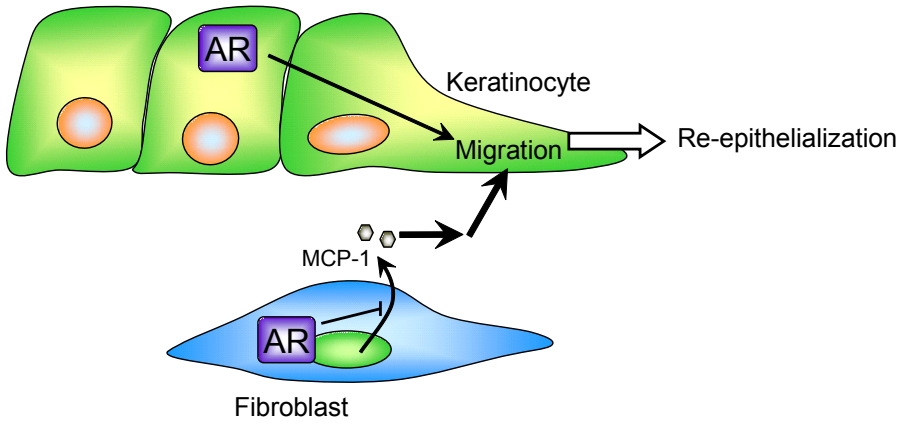

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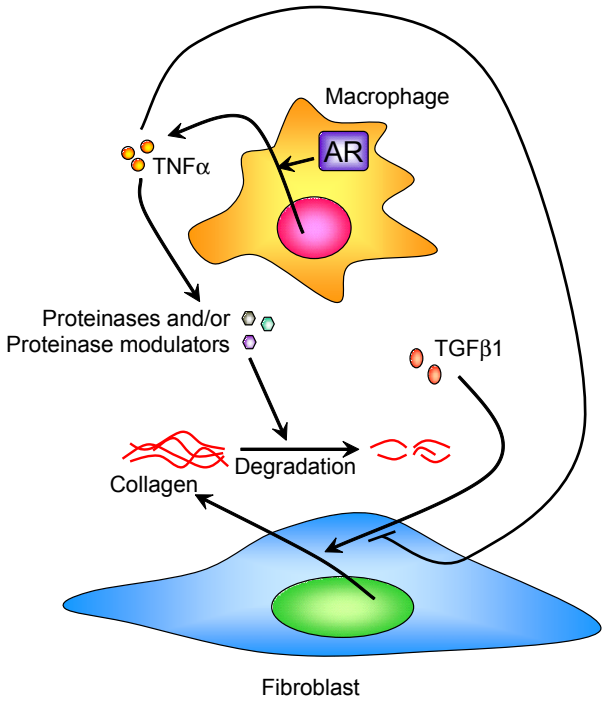

Supplemental Fig. 7 Lai et al.