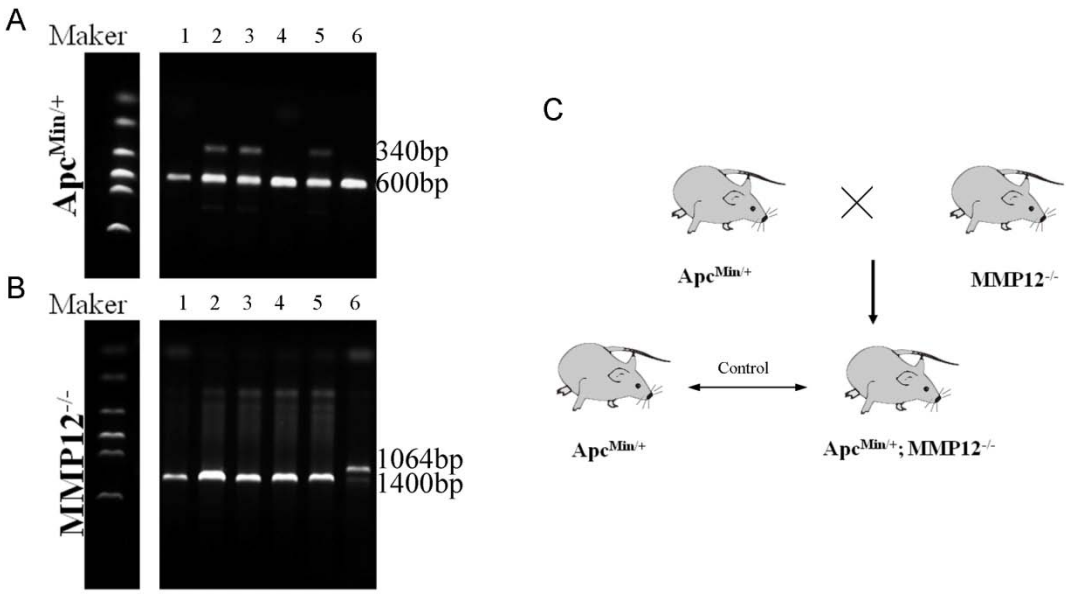

Fig. S1 Genotype identification and mice crossbreeding. A: Genotype identification of $Apc^{Min/+}$ mice by PCR: the APC mutation PCR product size is 340 bp. The WT PCR product size is 600 bp. B: Genotype identification of $MMP12^{-/-}$ mice: the MMP12 knockout PCR product size is 1400 bp. The WT PCR product size was 1064 bp. C. The schematic of the strategy for crossbreeding $Apc^{Min/+}$mice with $MMP12^{-/-}$ mice.

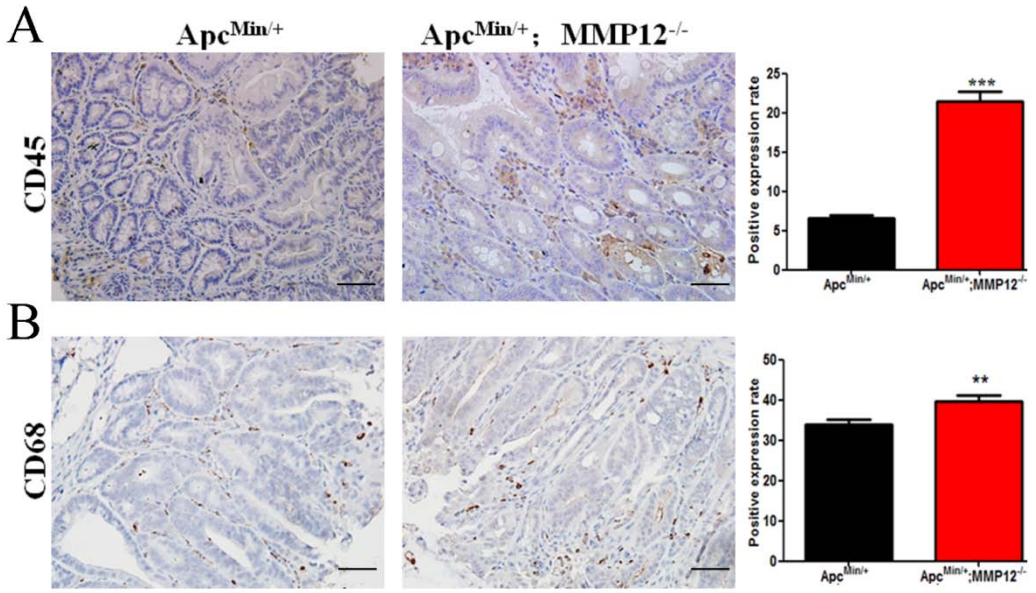

Fig. S2 Knocking out MMP12 increases macrophage numbers in the intestinal tumor microenvironment**.** A. Immunohistochemistry results indicated that CD45-positive cell numbers increased in intestinal tumor tissue samples from $Apc^{Min/+}$;$MMP12^{-/-}$ mice compared with $Apc^{Min/+}$ mice. B. The proportion of CD68-positive cells in intestinal tumor tissue was higher in $Apc^{Min/+}$;$MMP12^{-/-}$ mice than in $Apc^{Min/+}$mice (n=6, 40×).

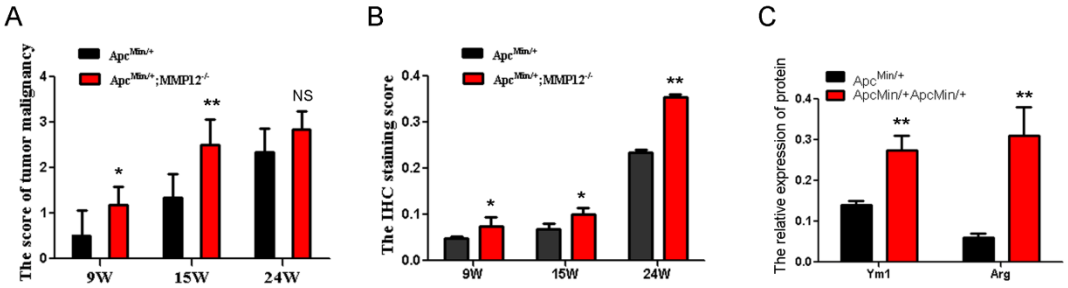

Fig. S3 A. The score of tumor malignancy of $Apc^{Min/+}$;$MMP12^{-/-}$ mice and $Apc^{Min/+}$ mice in 9, 15, 15 weeks old. B. The score of IHC staining of β-catenin about intestinal tumor of 9, 15, 15 weeks old. C. The relative expression of M2 protein marker Ym1 and Arg. The number of mice in above results, n=7-9, * $p<0.05$, ** $p<0.05$.

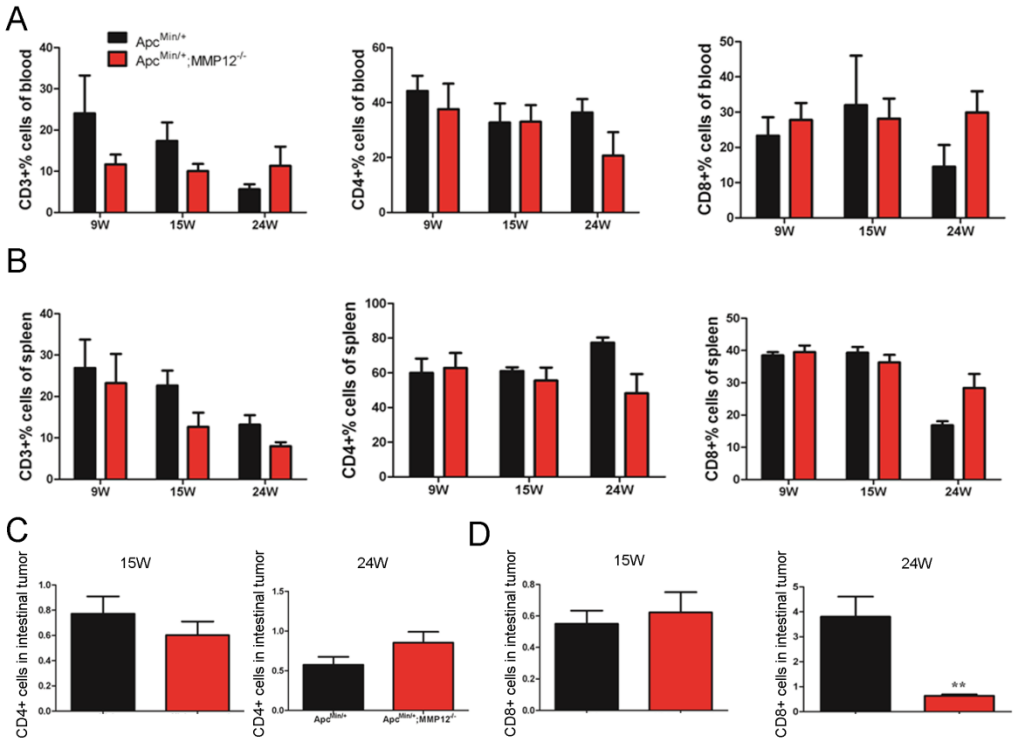

Fig. S4. The infiltrating lymphocytes in peripheral blood, spleen, and tumor tiuuse. A. The CD3 +, CD4, and CD8+ cells in peripheral blood have no differences compared $Apc^{Min/+}$;$MMP12^{-/-}$ mice with $Apc^{Min/+}$ mice, even in different age stage. B. The CD3 +, CD4, and CD8+ cells in spleen have no differences compared $Apc^{Min/+}$;$MMP12^{-/-}$ mice with $Apc^{Min/+}$ mice, even in different age stage. C. The CD4+ cells in intestinal tumor have no differences compared $Apc^{Min/+}$;$MMP12^{-/-}$ mice with $Apc^{Min/+}$ mice. D. The CD8+ cells in intestinal tumor have no differences compared $Apc^{Min/+}$;$MMP12^{-/-}$ mice with $Apc^{Min/+}$ mice. But at 24 weeks, the CD8+ cells number decreased. The mice number in all experimental, n=7-9, * P<0.05, ** P<0.0.1.

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Table S1 RT-PCR Primers

Gene name	Primer(5' to 3')	
m- Inos	Forward: ACCCTAAGAGTCACCAAAATGGC	Reverse: TTGATCCTCACATACTGTGGACG
m-Fizz1	Forward: TCCAGCTAACTATCCCTCCACTGT	Reverse: GGCCCATCTGTTCATAGTCTTGA
m-Ym1	Forward: GGGCATACCTTTATCCTGAG	Reverse: CCACTGAAGTCATCCATGTC
m-A**rginase 1**	Forward: AACACGGCAGTGGCTTTAACC	Reverse: GGTTTTCATGTGGCGCATTC
m-IL-4	Forward: GGTCTCAACCCCCAGCTAGT	Reverse: GCCGATGATCTCTCTCAAGTGAT
m-IL-13	Forward: CCTGGCTCTTGCTTGCCTT	Reverse: GGTCTTGTGTGATGTTGCTCA
m-IL-10	Forward: CTTACTGACTGGCATGAGGATCA	Reverse: GCAGCTCTAGGAGCATGTGG
m-TGF-beta1	Forward: CTCCCGTGGCTTCTAGTGC	Reverse: GCCTTAGTTTGGACAGGATCTG
m-TNF-α	Forward: CAGGCGGTGCCTATGTCTC	Reverse: CGATCACCCCGAAGTTCAGTAG
m-GAPDH	Forward:GGTGAAGGTCGGTGTGAACG	Reverse:CTCGCTCCTGGAAGATGGTG
m-β actin	Forward:GAGACCTTCAACACCCCAGC	Reverse:ATGTCACGCACGATTTCCC