A

Tsk/+

SS phenotype appearance

BMMSC iv (0.2x10⁶)

Sacrifice

3-4 w   8 w   12 w

B
CD25⁺Foxp3⁺Tregs (%/CD4⁺Tcells)
*** *** *** ***
Control, Tsk/+, BMMSC, TERT⁻/⁻, TERT⁻/⁻-Asp, Asp

C
IL17⁺ Th17 (%/CD4⁺Tcells)
*** *** *** ***
Control, Tsk/+, BMMSC, TERT⁻/⁻, TERT⁻/⁻-Asp, Asp

D
ANA (pg/ml)
*** *** *** ***
Control, Tsk/+, BMMSC, TERT⁻/⁻, TERT⁻/⁻-Asp, Asp

E
Anti dsDNA (IgG, KU/ml)
*** *** *** ***
Control, Tsk/+, BMMSC, TERT⁻/⁻, TERT⁻/⁻-Asp, Asp

F
Anti dsDNA (IgM, KU/ml)
*** *** *** ***
Control, Tsk/+, BMMSC, TERT⁻/⁻, TERT⁻/⁻-Asp, Asp

G
C57BL6
Tsk/+
BMMSC
TERT⁻/⁻
TERT⁻/⁻-Asp
Asp

Grabbed distance (mm)
*** *** *** ***
Control, Tsk/+, BMMSC, TERT⁻/⁻, TERT⁻/⁻-Asp, Asp

H
Control, Tsk/+, BMMSC, TERT⁻/⁻, TERT⁻/⁻-Asp, Asp
D, HD, M

Figure S6 Aspirin treatment failed to ameliorate systemic sclerosis phenotypes. (**A**) Schema showed procedure of using $TERT^{-/-}$ BMMSCs, aspirin-pretreated $TERT^{-/-}$ BMMSCs ($TERT^{-/-}$-Asp), or aspirin alone (Asp) to treat systemic sclerosis (SS) tight skin (Tsk/+) mice. (**B**) Flow sytometric analysis showed that Treg level was significantly decreased in Tsk/+ mice compared to control littermates. After MSCT, Treg level was significantly elevated, whereas $TERT^{-/-}$ MSCT failed to upregulate Treg level in Tsk/+ mice. $TERT^{-/-}$-Asp, along with Asp group, also failed to upregulate Treg levels in Tsk/+ mice. (**C**) Flow cytometric analysis showed that CD4+IL17+ Th17 cells were significantly increased in Tsk/+ mice compared to control littermates. MSCT, but not $TERT^{-/-}$ MSCT, was able to significantly reduce Th17 level in Tsk/+ mice. $TERT^{-/-}$-Asp, along with Asp group, also failed to reduce Th17 levels in Tsk/+ mice. (**D-F**) ELISA assays showed that Tsk/+ mice had elevated levels of anti-double strand DNA antibodies IgG (**D**), IgM (**E**) and antinuclear antibody (ANA, **F**) when compared to control littermates. MSCT reduced the levels of anti-double strand DNA antibodies IgG (**D**), IgM (**E**) and ANA (**F**). In contrast, $TERT^{-/-}$ MSCT failed to reduce the levels of anti-double strand DNA antibodies IgG (**D**), IgM (**E**) and ANA (**F**). $TERT^{-/-}$-Asp, along with Asp group, also failed to reduce the levels of anti-double strand DNA antibodies IgG (**D**), IgM (**E**) and ANA (**F**). (**G**) Tsk/+ mice showed tight skin phenotype. Grabbed skin distance measurement showed that BMMSC, but not $TERT^{-/-}$ MSCT, significantly improved tight skin phenotype. $TERT^{-/-}$-Asp, along with Asp group, also failed to improved tight skin phenotype. (**H**) Histological examination identified that hyperdermal thickness was significantly increased in Tsk/+ mice compared to control littermates. BMMSC, but not $TERT^{-/-}$ MSCT improved hyperdermal thickness in Tsk/+ mice. $TERT^{-/-}$-Asp, along with Asp group, also failed to reduce hyperdermal thickness in Tsk/+ mice. D: Dermal, M: Muscle, and HD: Hyperdermal. Error bars represent the s.d. of the mean values (n=6 in each group, ***p<0.005, **p<0.01, *p<0.05).