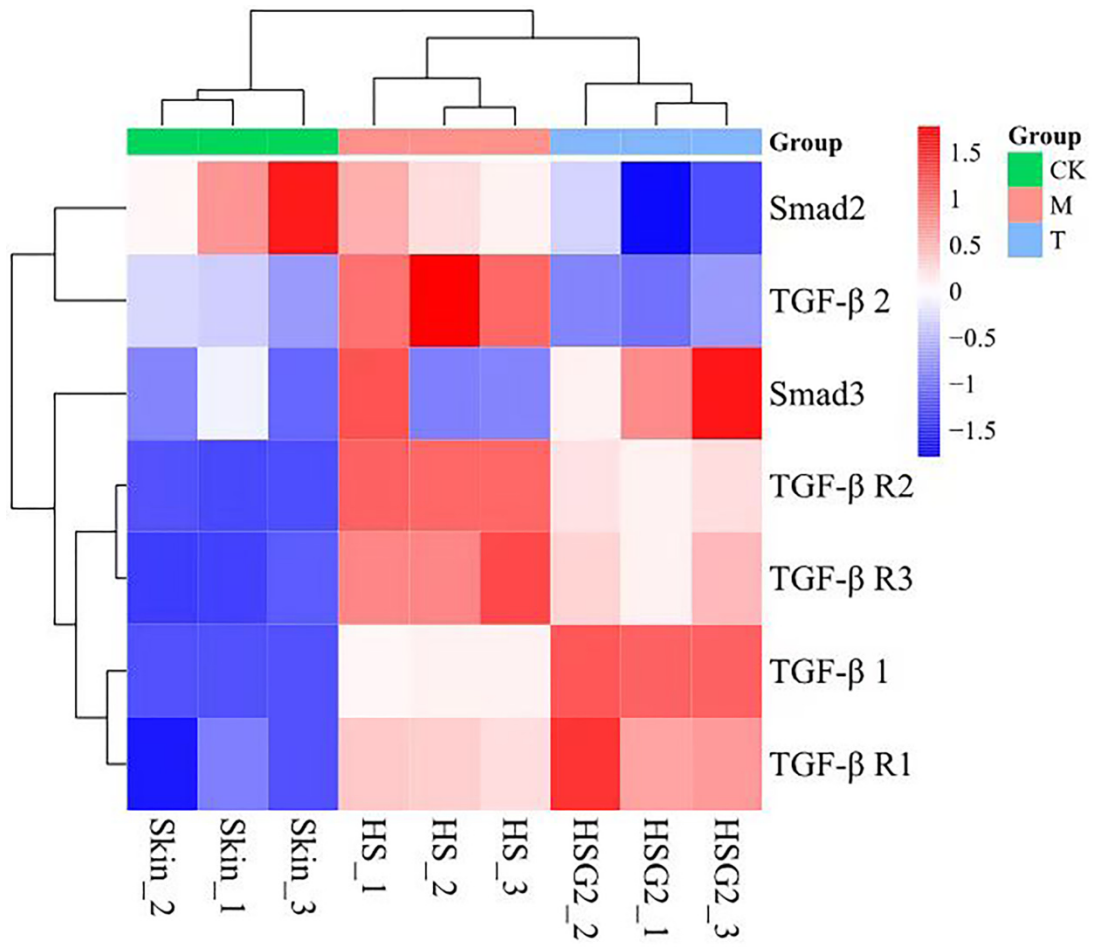
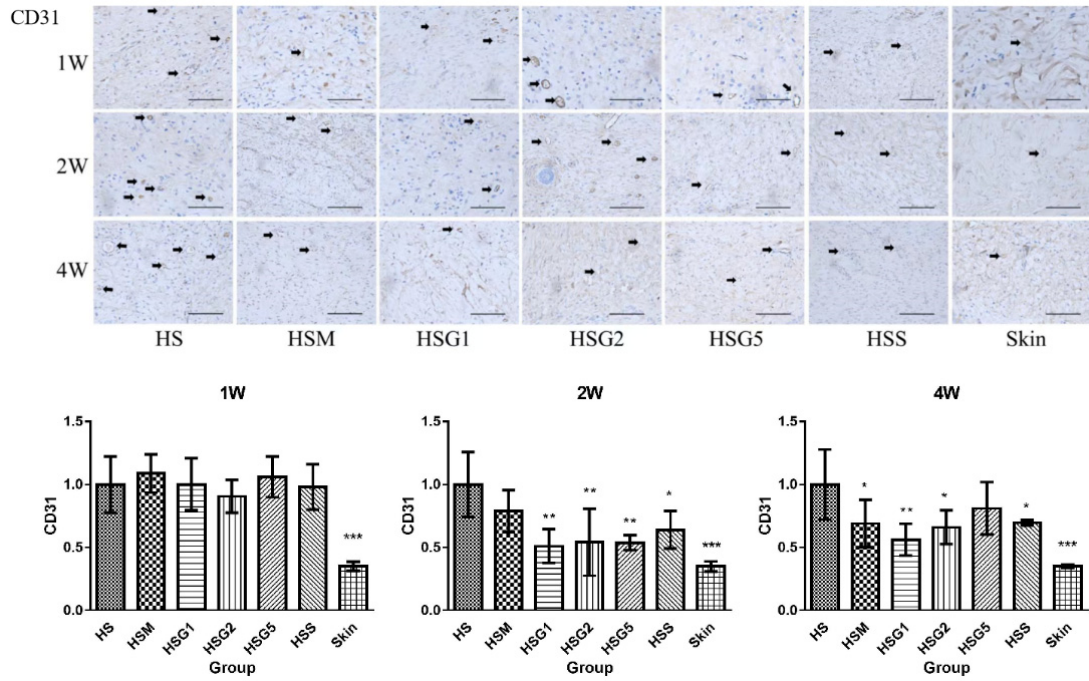


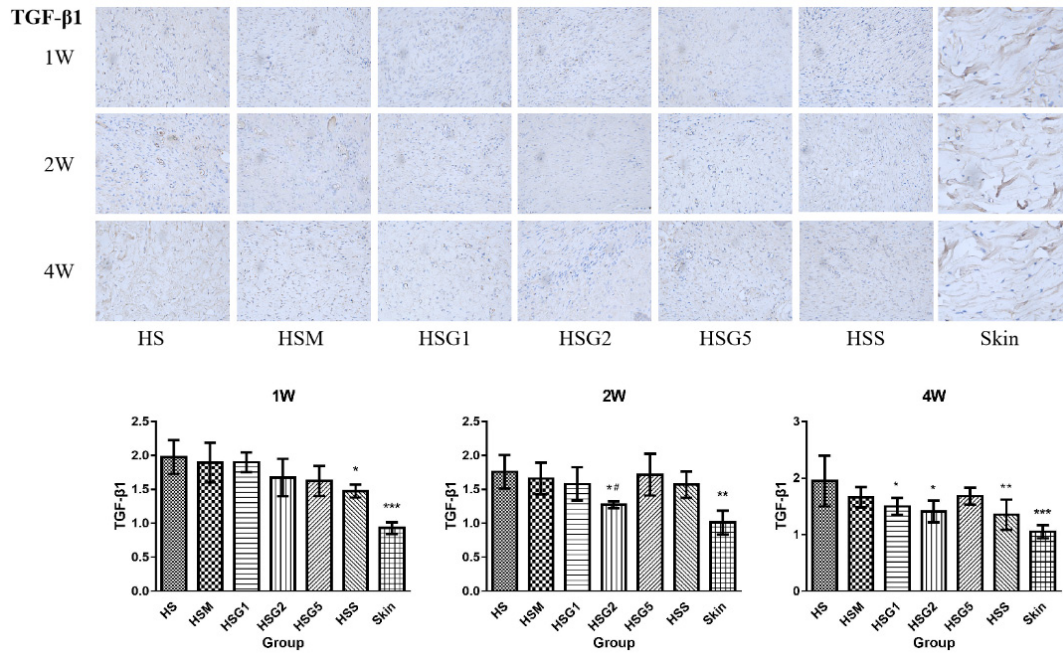
Supplementary Figure S1. Histological staining of all groups after the treatments. (HS: Model group, HSM: Matrix group, HSG1: Low-dose GA ointment group, HSG2: Medium-dose GA ointment group, HSG5: High-dose GA ointment group, HSS: Silicone gel group, Skin: Normal skin group)



Supplementary Figure S2. Gene expression between the skin, HS and HSG2 groups.

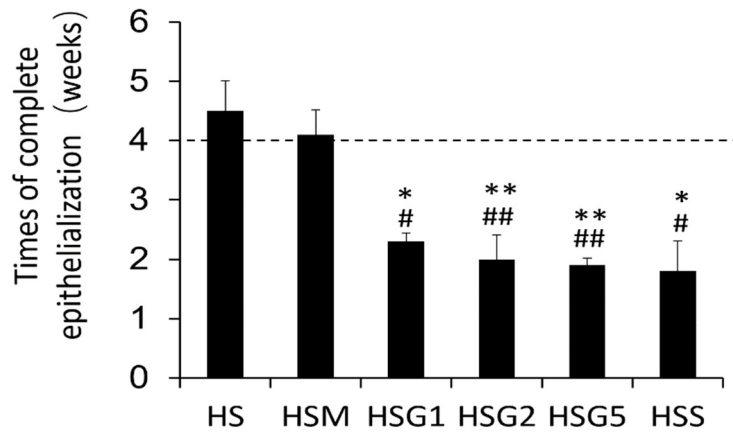


Supplementary Figure S3. Immunohistochemical staining for CD31+ blood vessels in different groups. Black arrow: microvascular vessel; Magnification = 200; Bar =100 μ m. Significant difference between HS group and other groups (*p < 0.05, **p < 0.01, n = 3); Significant difference between HSM group and other groups (#p < 0.05, ##p < 0.01, n = 3). Data was analyzed using one-way ANOVA with post-hoc Tukey's multiple comparisons test. (HS: Model group, HSM: Matrix group, HSG1: Low-dose GA ointment group, HSG2: Medium-dose GA ointment group, HSG5: High-dose GA ointment group, HSS: Silicone gel group, Skin: Normal skin group.)



Supplementary Figure S4. Immunohistochemical staining for TGF-β1 in different groups.

Significant difference between HS group and other groups (* $p < 0.05$, ** $p < 0.01$, $n = 3$); Significant difference between HSM group and other groups (# $p < 0.05$, ## $p < 0.01$, $n = 3$). Data was analyzed using one-way ANOVA with post-hoc Tukey's multiple comparisons test. (HS: Model group, HSM: Matrix group, HSG1: Low-dose GA ointment group, HSG2: Medium-dose GA ointment group, HSG5: High-dose GA ointment group, HSS: Silicone gel group, Skin: Normal skin group.)



Supplementary Figure S5. HSG significantly decreased complete wound-epithelialization time. Significant difference between HS group and other groups (* $p < 0.05$, ** $p < 0.01$, $n = 9$); Significant difference between HSM group and other groups (# $p < 0.05$, ## $p < 0.01$, $n = 9$). Data was analyzed using one-way analysis of variance ANOVA with post-hoc Tukey's multiple comparisons test. (HS: Model group, HSM: Matrix group, HSG1: Low-dose GA ointment group, HSG2: Medium-dose GA ointment group, HSG5: High-dose GA ointment group, HSS: Silicone gel group, Skin: Normal skin group.)

Supplementary Table 1. Primer sequence information.

Gene	Sequence (5'-3')	Annealing Temperature, °C	Product Size, bp
TGF- β 1	Forward: CCCAAGTGATGATGAGGTGC Reverse: CCTTGCCAAAGAAGCCTGAG	60	134
Smad2	Forward: TACTGTCCAATGTGAACCGAAAC Reverse: AGGGTGCCAGCCGTATCTC	60	167
Smad3	Forward: CATTCCATCCCCGAGAACAC Reverse: GCTGTGGTTCATCTGGTGGTC	60	126
TRPC3	Forward: TTCATTGAGTCGTGTCAAACCTTG Reverse: ACACTTGATGGCCACGGTC	60	139
β -actin	Forward: TGACCAACTGGGACGACATG Reverse: GTGTTGAACGTCTCGAACATGA	60	160