Supporting Information

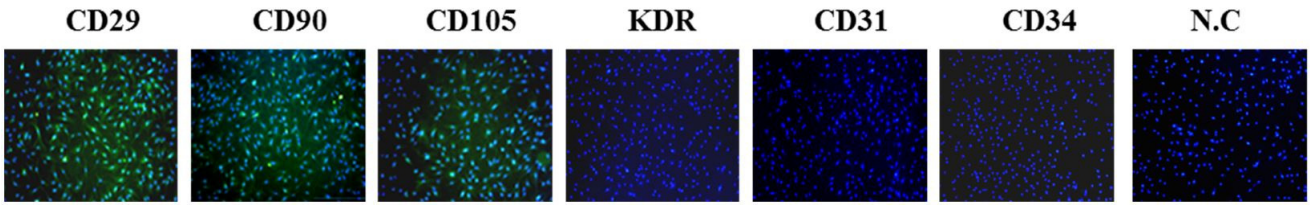

Fig. S1. Immunofluorescence staining of ASC. ASC were stained with CD29, CD90 and CD105 for mesenchymal stem cell identification, with KDR, CD31 and CD34 for endothelial lineage cell identification.

Table S1. Photobiomodulation irradiation

	In vitro study
Frequency of irradiation	10 min during 3 days
Light irradiated site	24 well cell culture plate (12.5×8.5 cm)
Distance from the LED light	10 cm
Power density	10 mW/cm^2
Light dosage (fluence)	6 J/cm^2
Irradiance (wavelength)	660 nm

Table S2. List of antibodies for immunofluorescence staining

Antibody	Host	Company	Catalogue number
anti-human CD29	mouse	Millipore	MAB2253Z
anti-human Flk-1	mouse	Santa Cruz	Sc-6251
anti-human CD34	mouse	Millipore	MAB4211
anti-human CD31	mouse	Dako	M0823
anti-mouse CD31	rabbit	BD biosciences	550274
anti-human CD90	mouse	BD biosciences	555595
anti-human CD105	mouse	Caltac Laboratories	MHCD10500
Alpha-Smooth Muscle Actin Monoclonal	mouse	Invitrogen	14-9760-82
HIF-1 alpha	rabbit	Novus	NB100-134
anti-human FGF	rabbit	abcam	ab8880
anti-human VEGF	rabbit	abcam	ab52917
anti-human HGF	rabbit	Santa Cruz	Sc-13087
Alexa Fluor 488 anti-mouse IgG	goat	Invitrogen	A11001
Alexa Fluor 594 anti-rabbit IgG	goat	Invitrogen	A11012

Table S3. Histological scoring system

Scores	Re-epithelializtion	Dermal regeneration	Granulation tissue formation	Angiogenesis
1	Minimal epidermal regeneration (<50%)	No skin appendage formation	Thin granulation around wound edges only	Little angiogenesis (<10 vessels/HPF)
2	Moderate epidermal regeneration (50%)	A few skin appendage formation (<5 appendages/wound area)	Moderate granulation in the wound bed	Moderate angiogenesis (10~20 vessels/HPF)
3	Complete epidermal regeneration (100%)	Considerable skin appendage formation (>5 appendages/ wound area)	Thick granulation in 100% of the wound bed	Marked newly formed and well-structured capillary vessels (>20 vessels/HPF)

High-power field (HPF); original magnification ×400.

Supporting Materials and methods

Preparation of chitosan-coated culture plates

Chitosan was coated on tissue culture plates using methods described in a previous study, with some modifications (8). Briefly, 0.5 ml 1% (w/w) chitosan solution (C-3646, Sigma, St. Louis, MO) dissolved in 0.67% (w/v) acetic acid was added into each well of 24-well tissue culture plates (TCPS; Greiner bio-one, Frickenhausen, Germany) and dried in an oven at 60℃ for 24 h to form a thin film, after which it was neutralized by 0.5 N NaOH aqueous solution (Sigma) for 2 h. Next, the plates were washed thoroughly with distilled water before being exposed to ultraviolet light overnight.