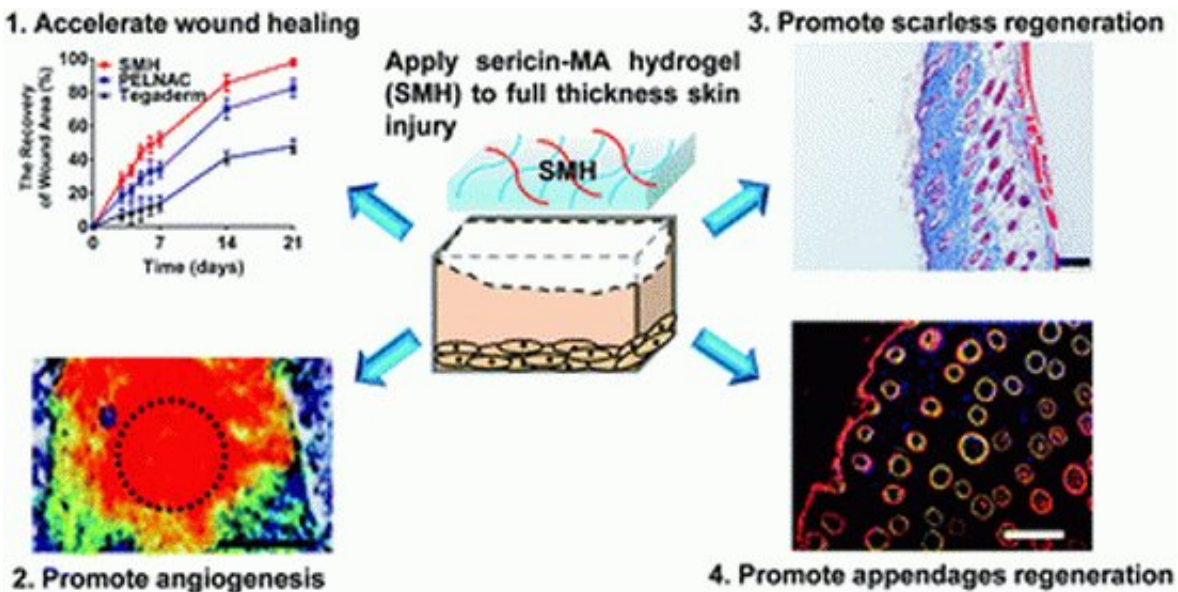


# Skin gel allows wounds to heal without leaving a scar

November 5 2018, by Bob Yirka



Credit: *Biomater. Sci.*, 2018,6, 2859-2870

A team of researchers at Huazhong University of Science and Technology has developed a silk protein-based gel that they claim allows for skin healing without scarring. In their paper published in the journal *Biomaterials Science*, the group describes their gel and how well it works.

Scarring due to a skin injury is not just unsightly—for many, it can also be a painful reminder of a wound. For these reasons, scientists have sought a way to heal [wounds](#) without [scarring](#). In this new effort, the team in China claims to have found such a solution—a sericin hydrogel.

The gel used by the researchers was based on a silk protein—the researchers extracted sericin from silk fibers and then used a UV light and a photoinitiator to cross-link the protein chains. The result was a gel that adhered well to cells and did not trigger much of an immune response. The researchers note that it also has adjustable mechanical properties. They explain that the gel allows for scar-free healing by inhibiting inflammation and by promoting the development of [new blood vessels](#). It was also found to regulate TGF- $\beta$  growth factors, which resulted in stem cells being routed to the injury site allowing new skin to develop, rather than scar tissue.

The researchers note that proteins found in [silk](#) have built-in bioactivity. This, they suggest, is likely because the composition of the amino acids is quite similar to that of human [skin](#). The gel also blocks bacteria from entering a wound, which allows the wound to heal faster than it normally would.

More study is required to ensure that the gel does not cause unwanted side effects, but the team is optimistic. They point out that it does a better job than anything else currently available at preventing scars from forming. They predict that their gel will one day soon be used to treat wounds in a way that is not only safe and effective, but prevents scarring.

**More information:** Chao Qi et al. Sericin hydrogels promote skin wound healing with effective regeneration of hair follicles and sebaceous glands after complete loss of epidermis and dermis, *Biomaterials Science* (2018). [DOI: 10.1039/C8BM00934A](https://doi.org/10.1039/C8BM00934A)

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