Epidermal stem cell

The epidermis, which is the outermost layer of mammalian skin, provides an essential barrier that is essential for maintenance of life. The epidermis is a stratified epithelium, which is maintained by the proliferation of epidermal stem cells (EPSCs) at the basal layer of the epidermis.

As a unique cell population characterized by self-renewal and differentiation capabilities, Epidermal stem cell ensure the maintenance of adult skin homeostasis and participate in repair of the epidermis after injury. The utilization of epidermal stem cells for wound healing and tissue regeneration has been attracting increased attention from researchers. In addition, the advances in tissue engineering have increased the interest in applying EPSCs in tissue-engineered scaffolds to further reconstitute injured tissues [1)].

1)
Yang R, Yang S, Zhao J, Hu X, Chen X, Wang J, Xie J, Xiong K. Progress in studies of epidermal stem cells and their application in skin tissue engineering. Stem Cell Res Ther. 2020 Jul 22;11(1):303. doi: 10.1186/s13287-020-01796-3. Erratum in: Stem Cell Res Ther. 2022 May 5;13(1):183. PMID: 32698863; PMCID: PMC7374856.