## ABSTRACT

# TECHNIQUE FOR REGULATING JAK-STAT PATHWAY TO ALLOW CELL DIFFERENTIATION, DEDIFFERENTIATION, AND REJUVENATION, AND APPLICATIONS OF TECHNIQUE

A method of regulating cell differentiation, dedifferentiation, transdifferentiation, rejuvenation, aging and apoptosis by regulating Jak-Stat signaling pathway and uses thereof. In the method, a gene or protein target involved in the JAK-STAT signaling pathway is regulated quantitatively or in a timing manner using a small molecular combination, a cytokine or recombinant protein combination, gene editing or transgenic technique to achieve the rejuvenation and/or obtain different lineages of cells. This application further provides cell products generated in the method or their derivatives for thereprogramming and immunoregulation of cells, tissues, organs and organisms, construction of tissue engineering materials, repairing of injured, aged and degenerated mammalian tissues and organs and delaying and reversing of the aging process of cells, tissues, organs and organisms.

[FIG. 1]