

Contains a drug-derived adipose derived stem cell Component R & D of hair growth / hair growth external medicine



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In recent years, research on exosomes has become active in Japan and abroad. For this exosome, further research is necessary, and it is expected that new medicinal ingredients will be found in the future.

Dr. Ii et al. showed that gene expression of various growth factors was observed in the secretion of statin-polymer nanoparticle-conjugated adipose derived stem cells (Fig. 1) and that hair root increase and hair growth (Fig. 2). As target diseases, effects on alopecia areata, alopecia and hair loss due to side effects of anticancer agents are expected.

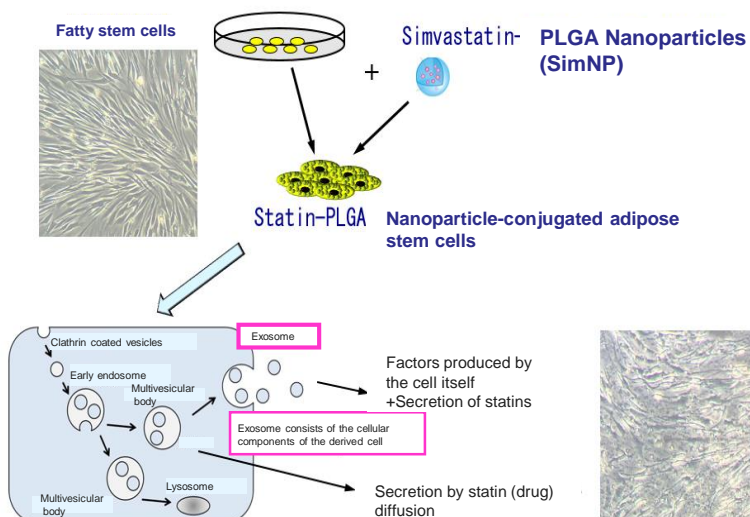


Figure 1: Secretion of Statin-PLGA nanoparticle-conjugated adipose stem cells

<Outline of results>

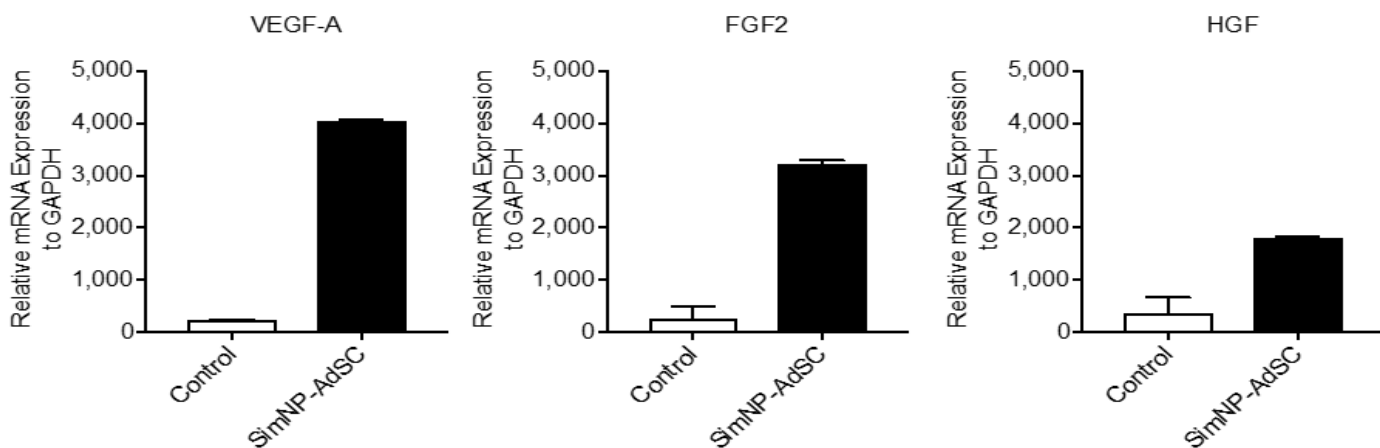


Figure 2: Gene expression of secretions of Statin-PLGA nanoparticle-conjugated adipose derived stem cells (cultured for 4 days)

Dr. Ii et al. applied 5% glycerol water containing exosome produced by simvastatin-encapsulating polymer nanoparticle-conjugated adipose derived stem cells (SimNP-fat stem cells) to the back skin (every other day)

- The hair growth promoting effect of the skin of the ICR mouse abolished completely after hair removal was observed (Fig. 3)
- Mutation HR-1 mice exhibiting hair follicle cell abnormalities also showed a hair-thickening effect (data not shown)

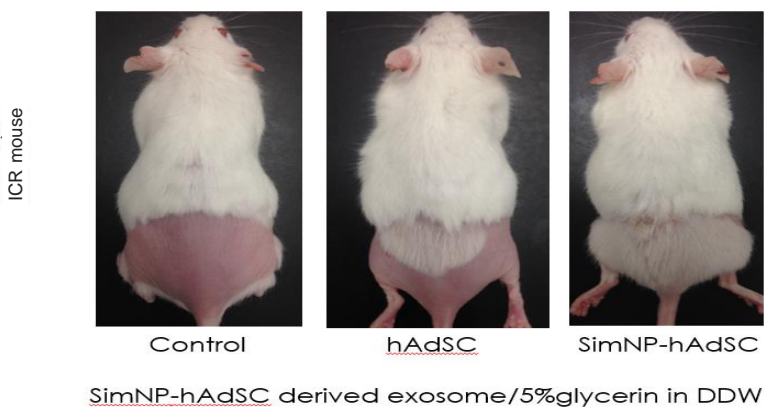


Figure 3. Hair growth / hair growth effect by exosome derived from SimNP-fat stem cell (after 1 week)