

RNA Cocktail to Restore Function in Aged Cells

Product

Gene Therapy, RNA Cocktail

Indication

Chronic skin wounds, adoptive cell therapies, ex-vivo cell expansion, tissue transplants, cell biobanking and more

Value Propositions

- ▶ Restores “youth” in cells
- ▶ Transiently reactivates telomerase
- ▶ Improves cell expansion ex-vivo and in-vivo
- ▶ Enhances cell engraftment
- ▶ Restores cell function

Market

- ▶ \$18.41B Global Wound Care Market 2022
- ▶ \$5.17B Cell Line Development Global Market 2021

Intellectual Property

- ▶ PCT Stage: Published [WO2021051054A1](https://pubchem.ncbi.nlm.nih.gov/pat/WO2021051054A1)

Key Documents

- ▶ High-efficiency RNA-based reprogramming of human primary fibroblasts. (Kogut et al. 2018. Nat Comm) [link](#)

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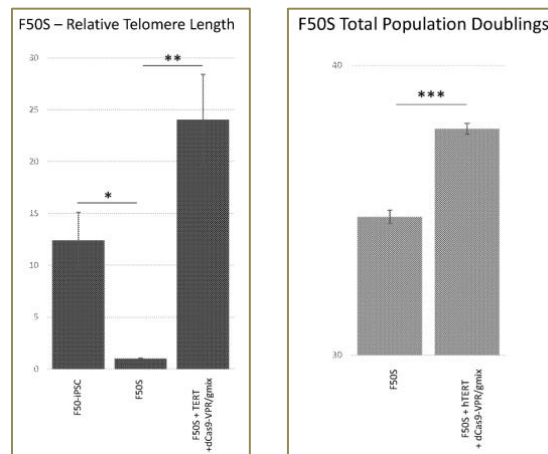
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Aged Cells or Tissues used for Autologous Therapies have Poor Efficacy

Autologous cells used for tissue transplant therapies or adoptive cell therapies become poorly functional because of aging caused by either (1) patient age (elderly patient) or (2) induced aging via ex-vivo expansion protocols. Restoring function in aged cells is critical to improve efficacy of autologous tissue and cell therapies.

RNA Cocktail to Restore Function in Aged Cells

Drs. Igor Kogut and Ganna Bilousova developed an RNA cocktail comprised of modified mRNAs. Administering this RNA cocktail to highly passaged (and no longer proliferative) fibroblasts resulted in telomere extension, subsequent continued proliferation in-vitro, and rejuvenation of many other age-associated marks.



In the context of skin transplantation, when skin grafts from elderly patients were transplanted onto mice, the cells failed to engraft. However, when the skin grafts were treated with the RNA cocktail, the transplant was successful.

