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Adipose-derived aldehyde-dehydrogenase-expressing cells accelerate re-vascularization of collagen-glycosaminoglycan scaffolds

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Disclosure/Financial Support

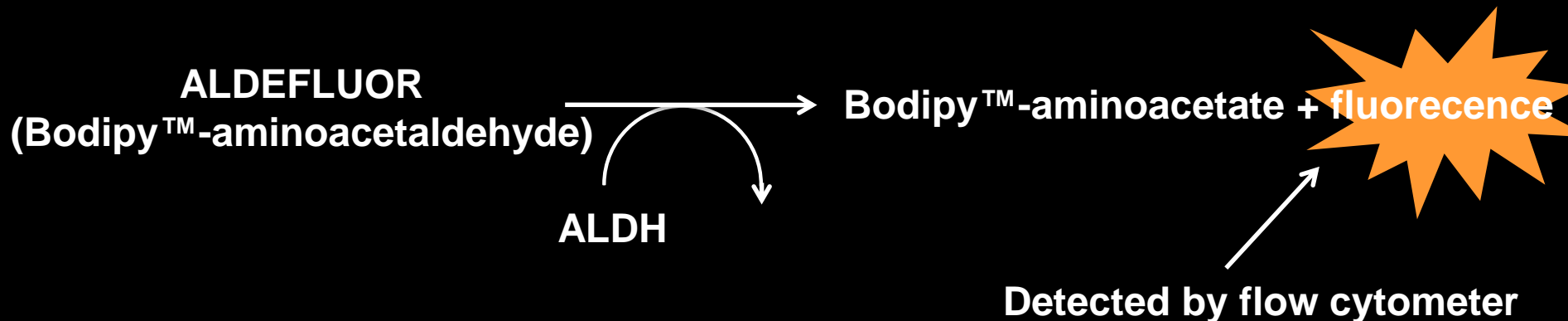
This study was supported by Toho Women's Clinic Research Foundation, the Gillian Reny Stepping Strong Fund, and the Brigham Research Institute and the Center for Faculty Development and Diversity's Office for Research Careers Microgrant Program.

None of the authors has a financial interest in any of the products, devices, or drugs mentioned in this study.

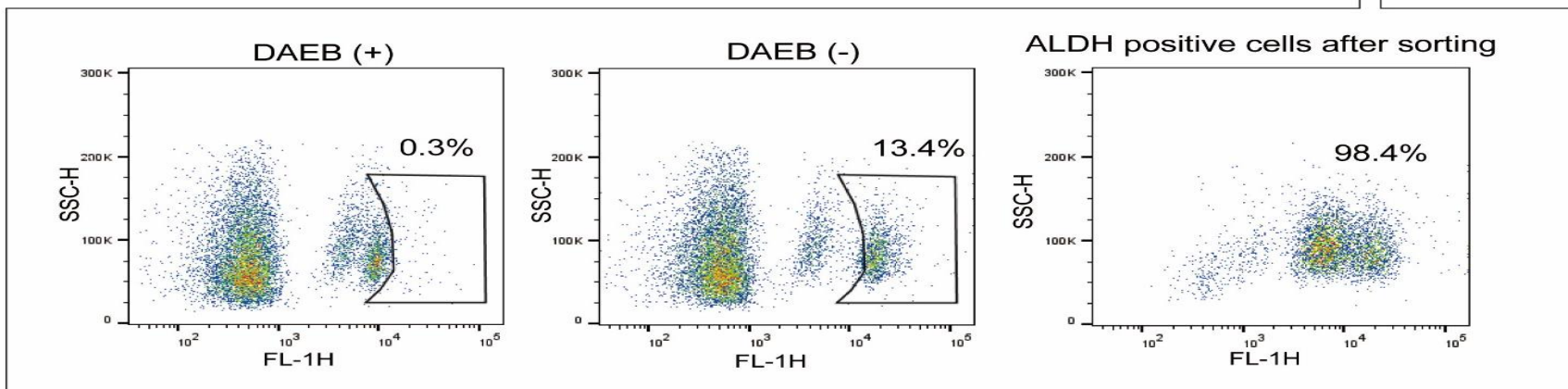
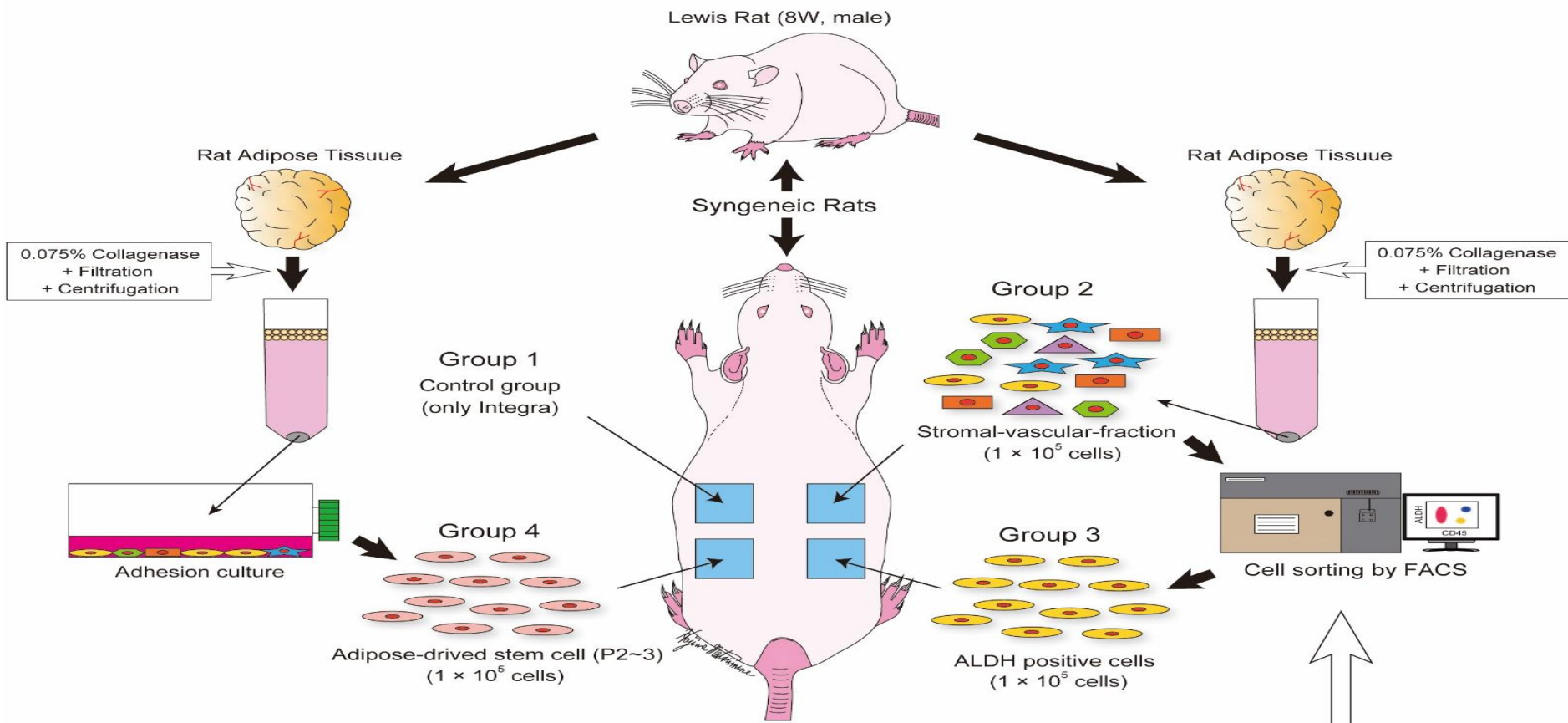
Objective of the study

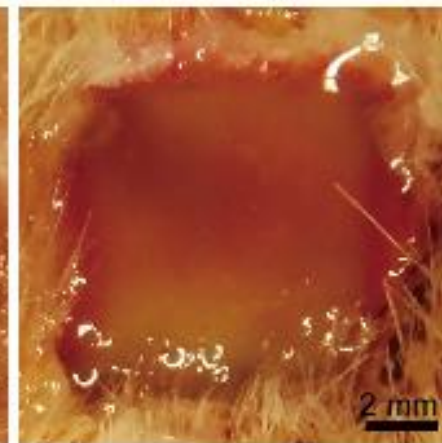
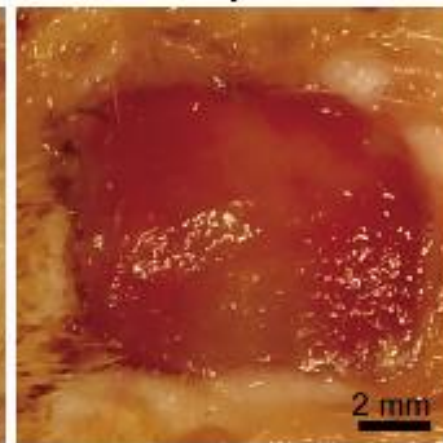
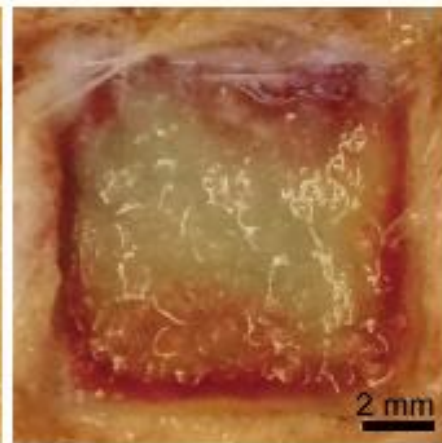
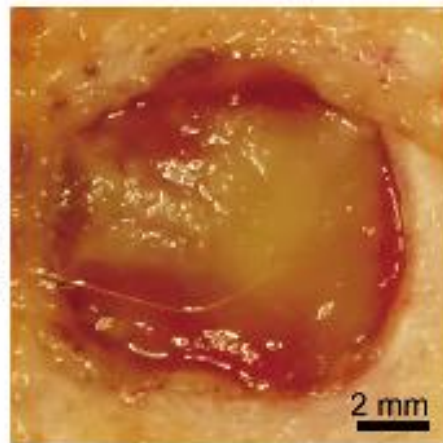
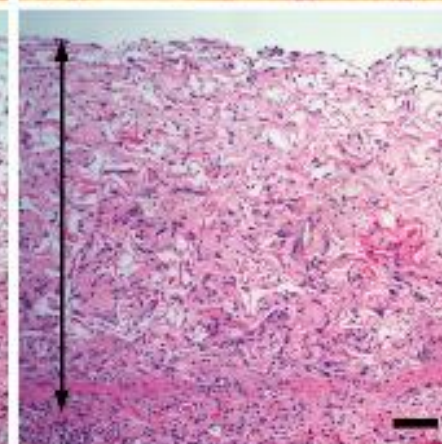
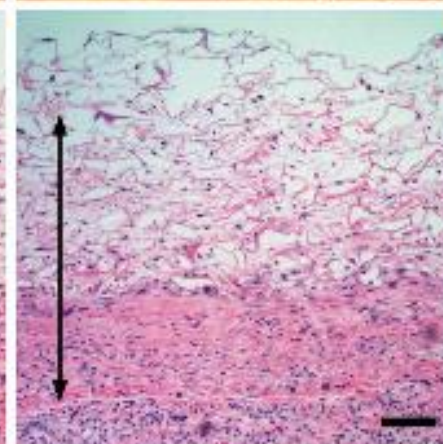
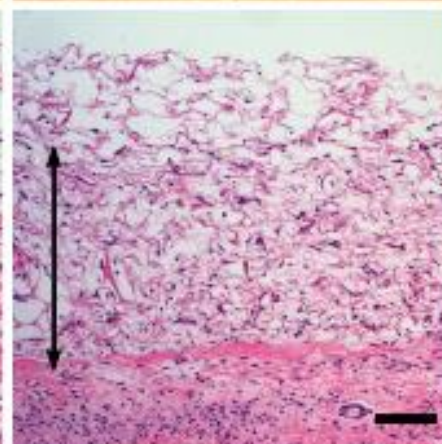
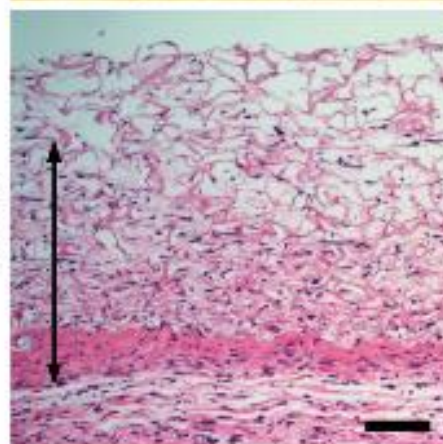
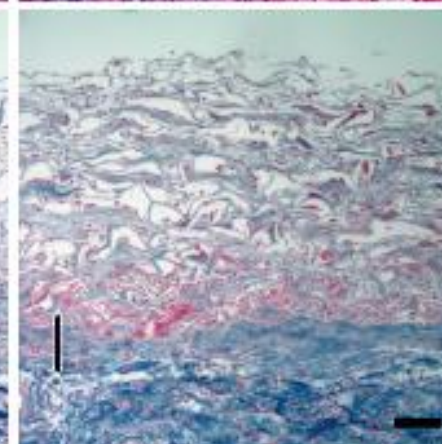
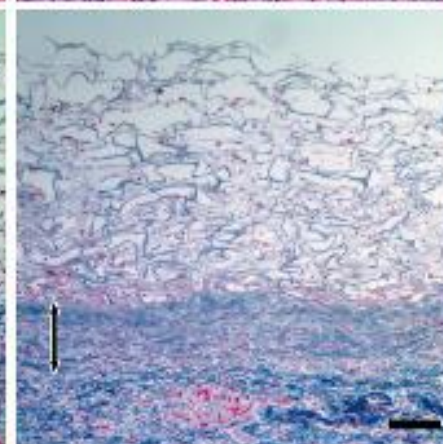
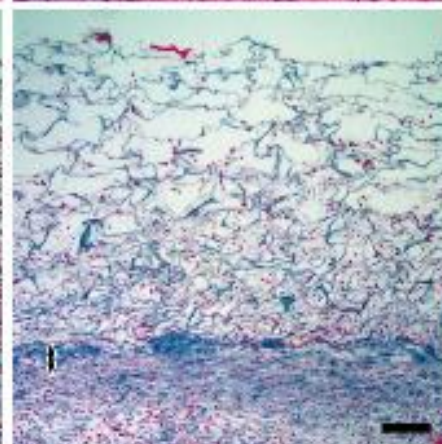
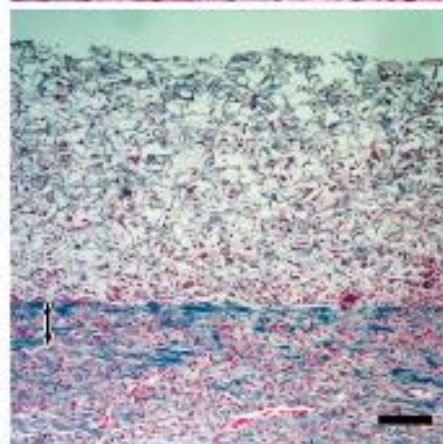
Aldehyde dehydrogenase (ALDH), which is an enzyme to convert aldehyde to carboxylic acid, was used to be a marker of “**stemness**”.

This study aims to investigate the effects of ALDH positive cells divided from stromal-vascular-fraction on generation and vascularisation of dermis-like tissue after artificial dermis grafting in the rat experimental model.

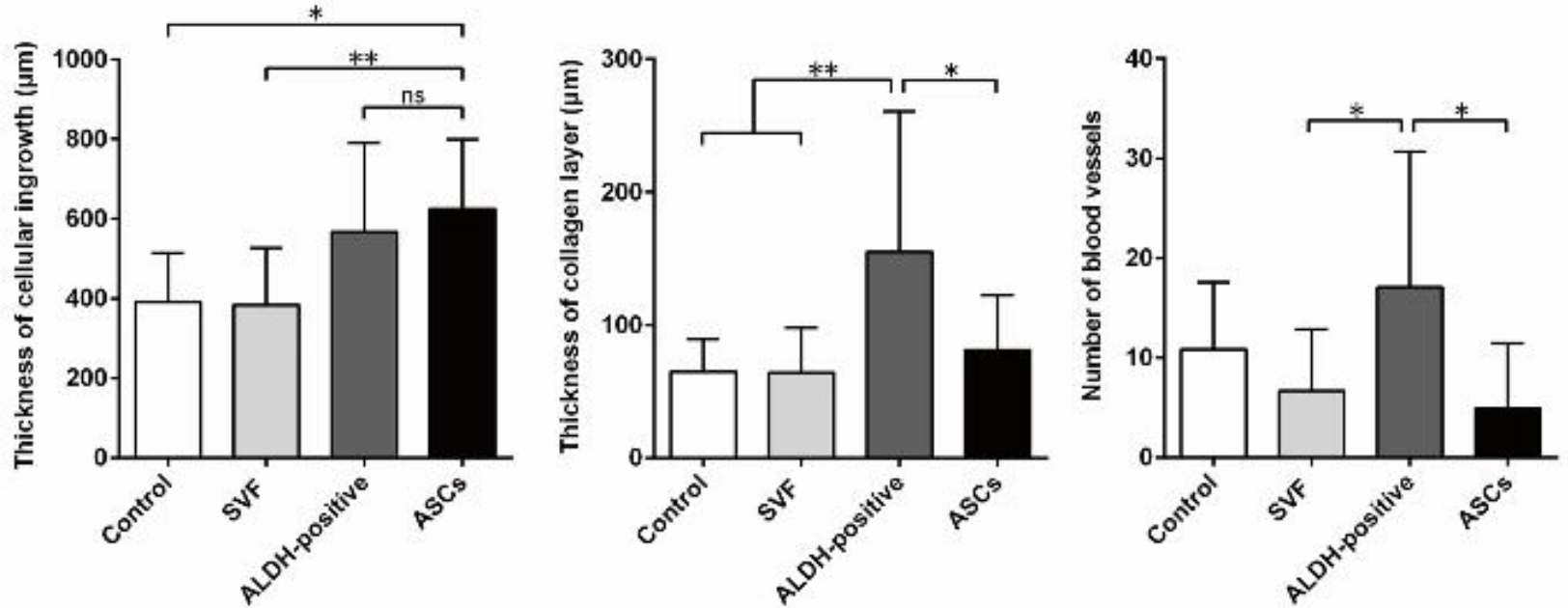
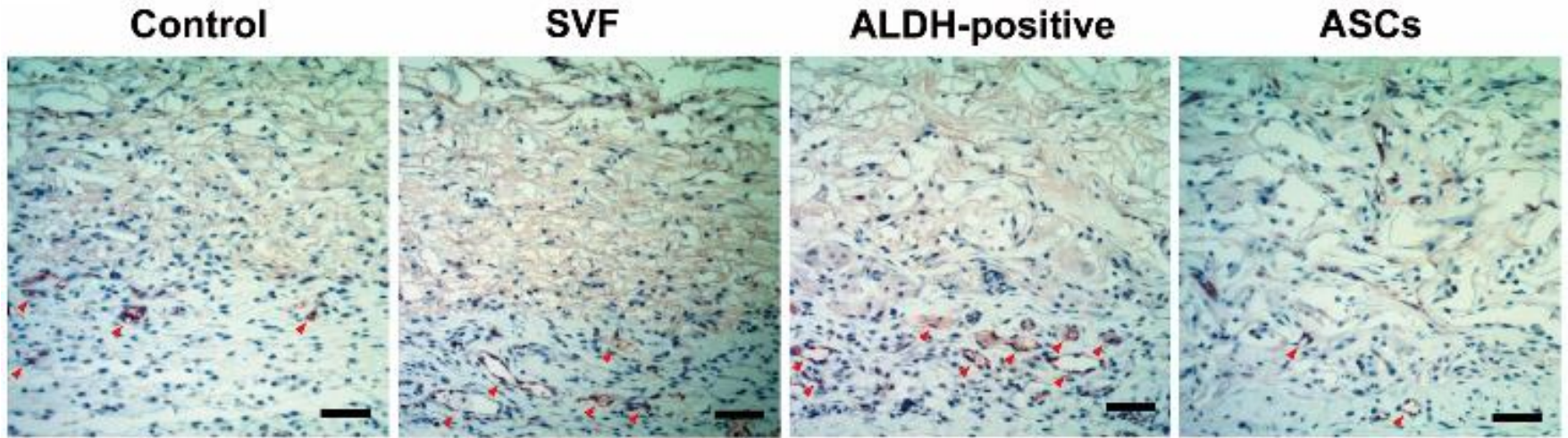


Materials and methods



Control**SVF****ALDH-positive****ASCs****Photo****H&E****Masson-trichrome**

vWB immunostaining



ANOVA and Tukey's multiple comparison test; ; * $p < 0.05$, ** $p < 0.01$

Results and conclusions

Composite transplantation of artificial dermis and adipose-derived ALDH-positive cells promoted dermal regeneration, not worse than cultured ASC, suggesting that ALDH-positive cells could be used in an acute setting as a reliable alternative for cultured ASCs.

