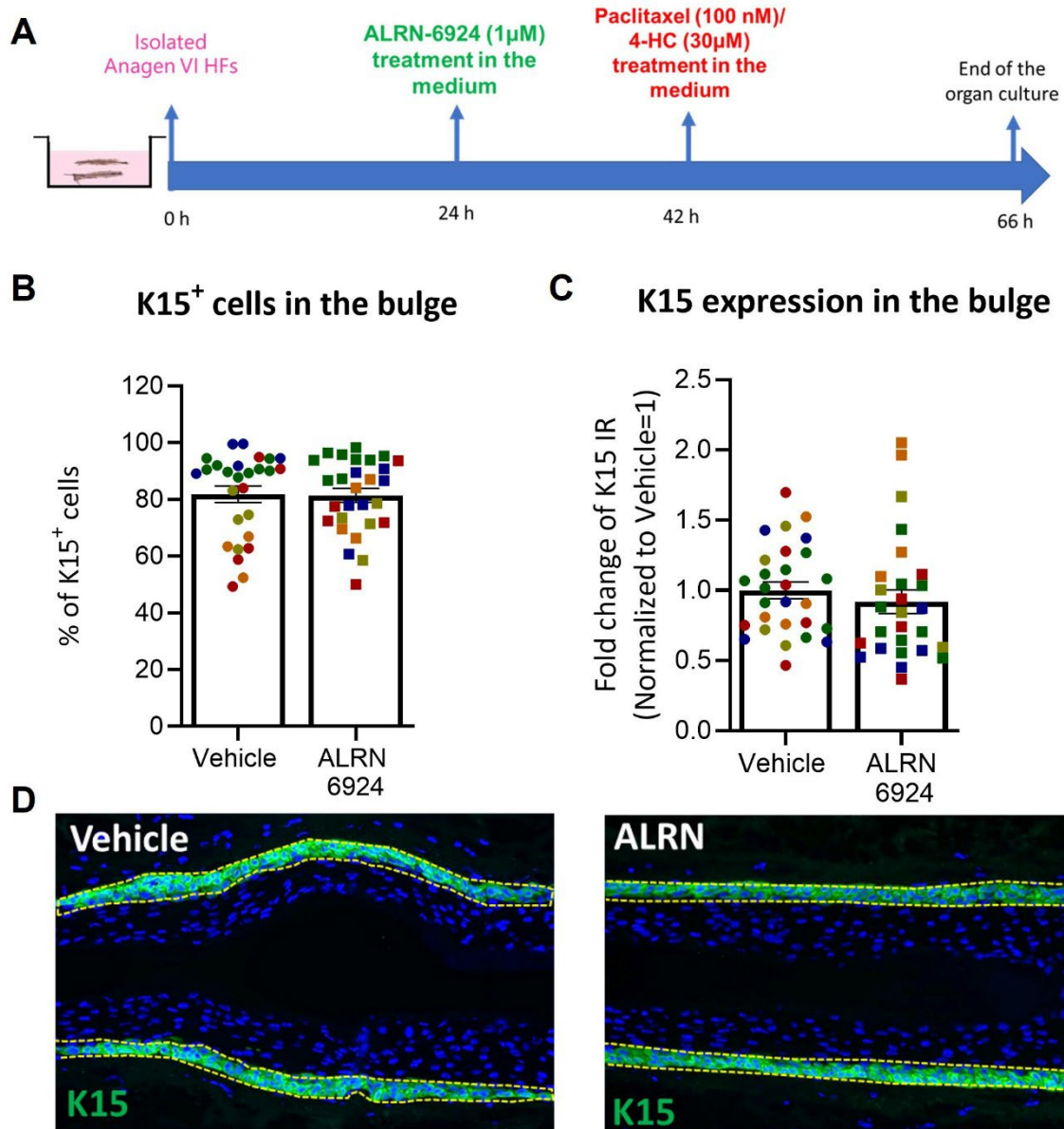
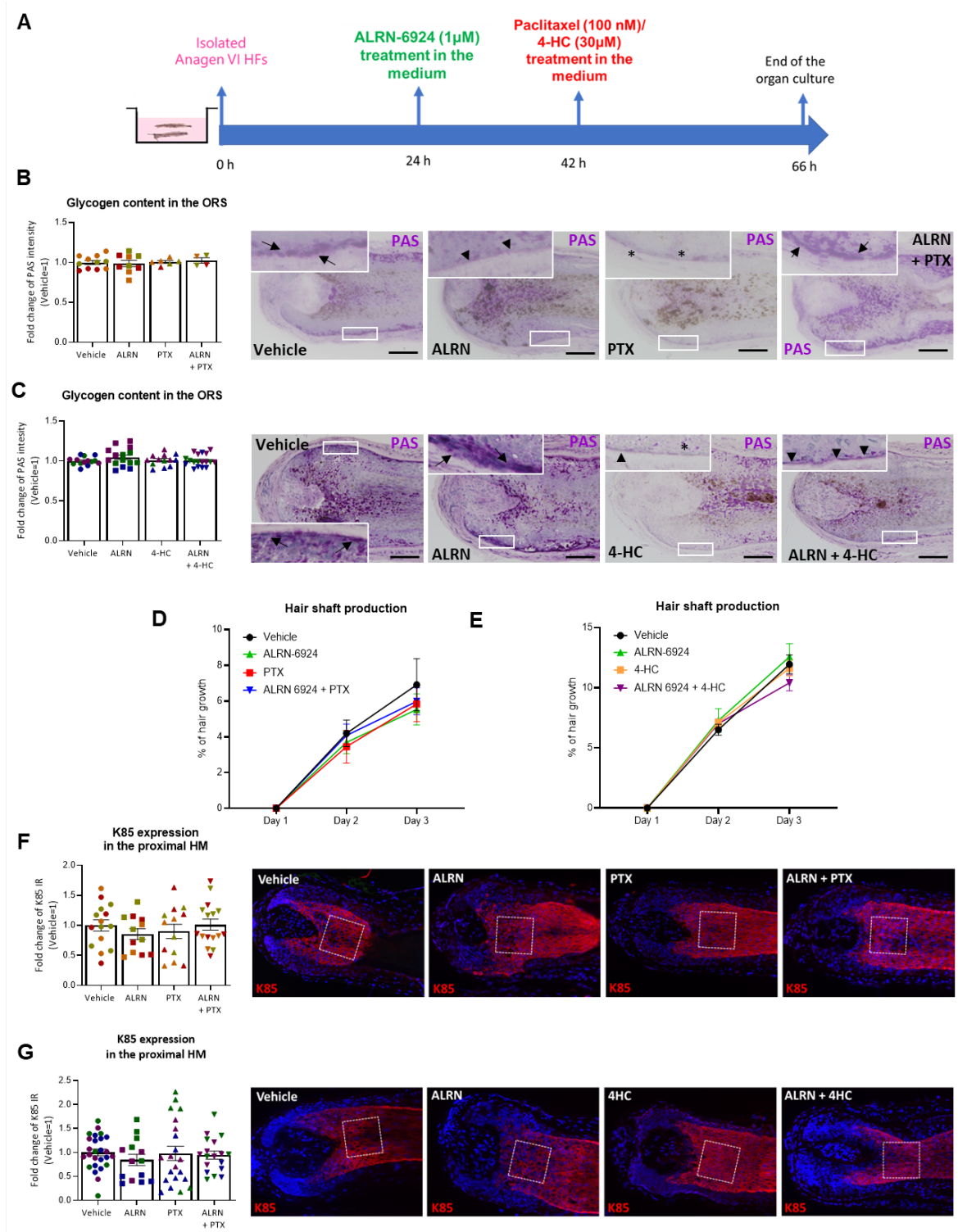


Supplemental figures



Supplemental Figure 1: Effect of ALRN-6924 on K15⁺ eHFSC in the microdissected hair follicle.

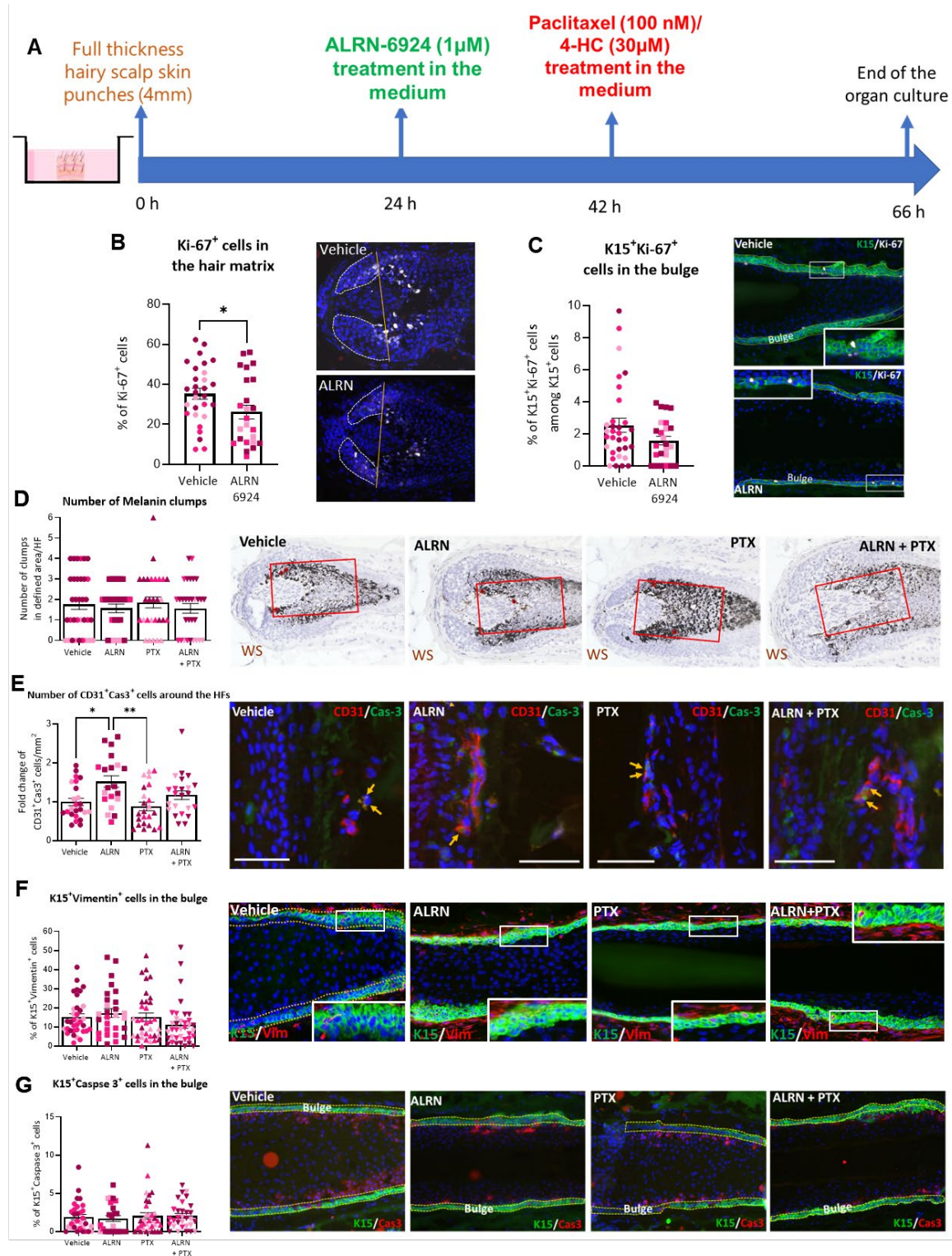
(A) Experimental design scheme. (B-C) Percentage (B) and immunoreactivity (C) of K15⁺ cells in the bulge. (D) Representative images of K15 staining. Mean ($\pm$) SEM; N= 20-29 HF/group from 5 donors. Student's t-test.



Supplemental Figure 2: Effect of chemotherapy and ALRN-6924 on HF's integrity and growth.

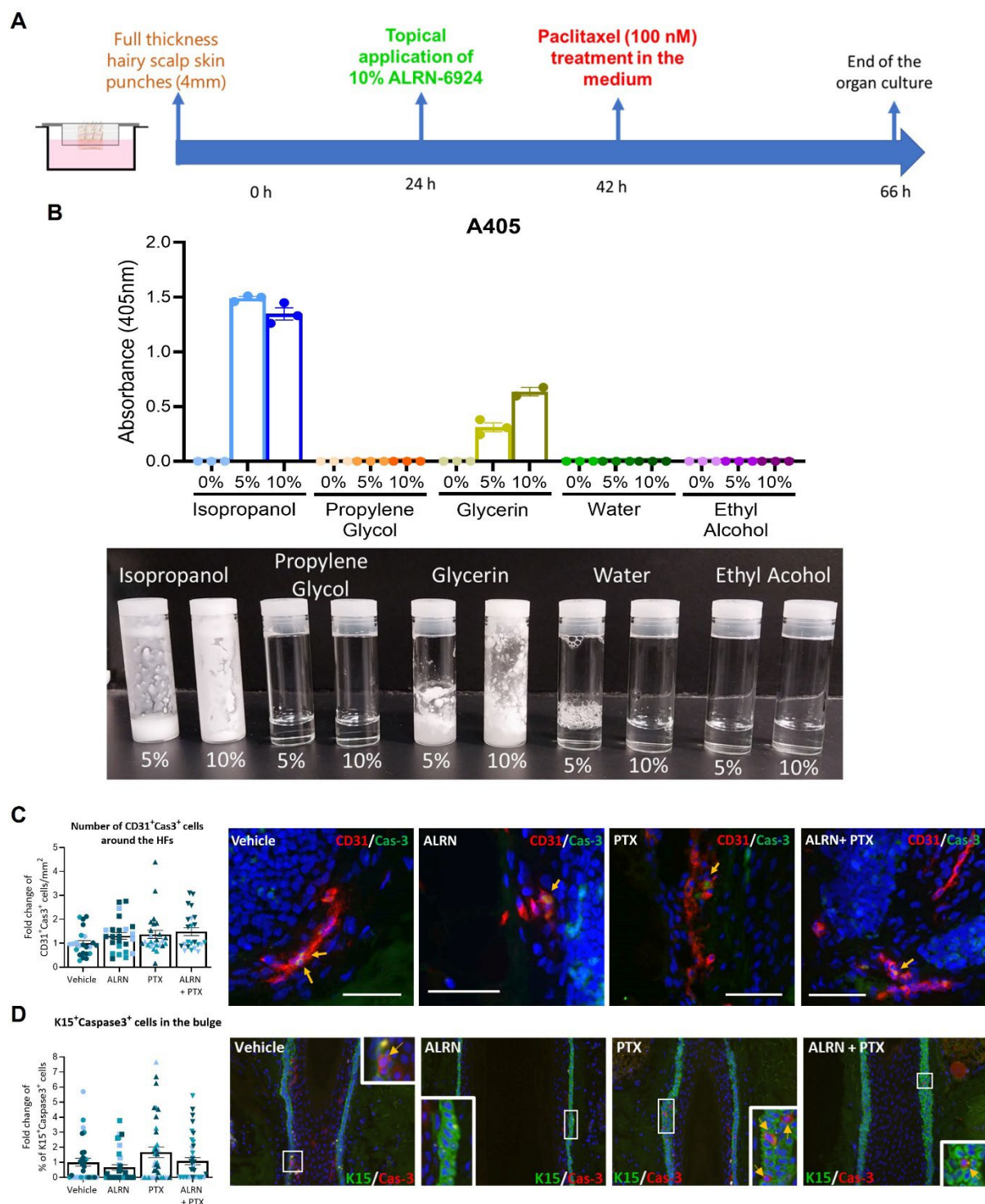
(A) Experimental design scheme. (B-C) Quantitative (immuno-)histomorphometry and representative images showing PAS staining for detecting glycogen content and basement

membrane integrity in HFs treated with ALRN-6924 alone or in combination with PTX (**B**) or 4-HC (**C**). Mean ($\pm$) SEM; N= 4-14 HF/group from 3 donors. Student's t-test, n.s. (**D-E**) Hair shaft production during the 3 days of organ culture of HFs treated with ALRN-6924 alone or in combination with PTX (**D**) or 4-HC (**E**). Mean ($\pm$) SEM; N= 14-15 HF/group from 3 donors. Student's t-test, n.s. (**F-G**) Immunoreactivity and representative images of K85 expression in HFs treated with ALRN-6924 alone or combined with PTX (**B**) or 4-HC (**C**). Mean ($\pm$) SEM; N= 12-25 HF/group from 3 donors. Student's t-test, n.s.



Supplemental Figure 3: Efficacy of ALRN-6924 and absence of PTX-induced hair follicle damage in human scalp skin.

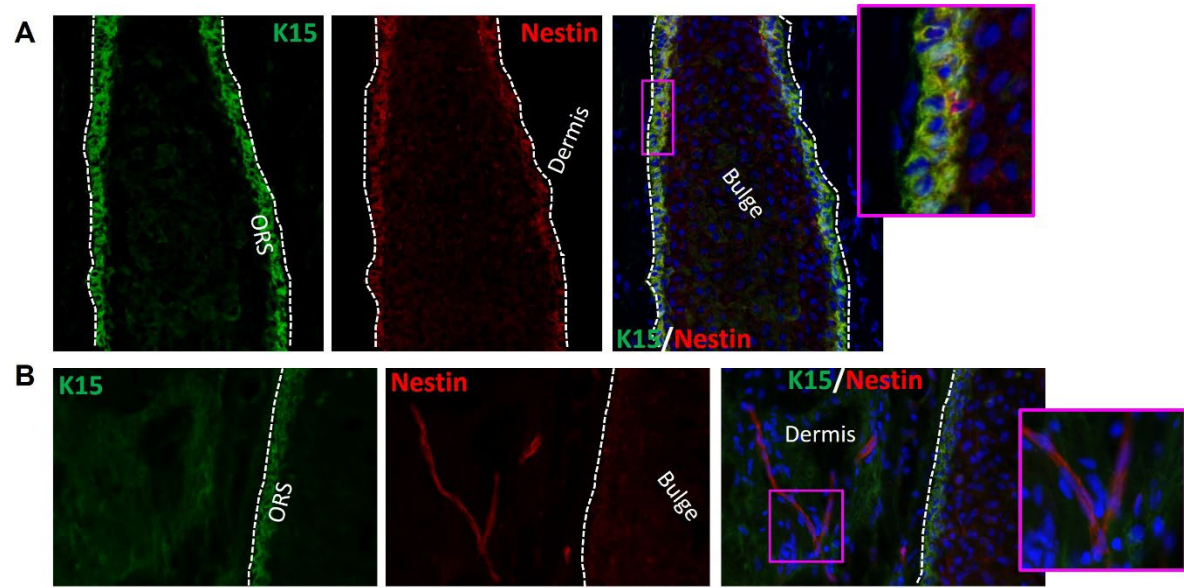
(A) Experimental design scheme. **(B-C)** Quantitative (immuno-)histomorphometry and representative images showing cell cycle arrest mediated by ALRN-6924. Percentage of Ki-67⁺ cells in the hair matrix **(C)** and K15⁺/Ki-67⁺ cells in the bulge. Mean ($\pm$) SEM; N= 24-32 HF/group from 3 donors treated with PTX. Student's t-test. **(D)** Number and representative images of melanin clumps in the defined reference area. Mean ($\pm$) SEM; N= 28-35 HF/group from 3 donors treated with PTX. Student's t-test. **(E)** Percentage and representative picture of apoptotic endothelial cells (CD31⁺Caspase 3⁺) around the HF. Mean ($\pm$) SEM; N= 20-24 HF/group from 3 donors treated with PTX. Student's t-test, *p<0.05, **p<0.001. **(F-G)**. Percentage and representative images of K15⁺Vimentin⁺ **(F)** or K15⁺Caspase 3⁺ **(G)** cells among the total number of K15⁺ cells in the bulge. Mean ($\pm$) SEM; N= 28-35 HF/group from 3 donors treated with PTX. Student's t-test.



Supplemental figure 4: Turbidity assay results for ALRN-6924 in media for topical application.

(A) Experimental design scheme. (B) Turbidity test showing the solubility of 5% and 10% w/v concentrations (25.9 and 51.8 mM) of ALRN-6924 in different topical application media. UV

Absorbance as a proxy for turbidity read at 405 nm. **(C)** Percentage and representative picture of apoptotic endothelial cells (CD31⁺Caspase 3⁺) around the HFIs. Mean ($\pm$) SEM; N= 23-25 HF/group from 3 donors treated with PTX. Student's t-test. **(D)** Percentage and representative image of apoptotic (Caspase 3⁺) K15⁺ cells among the total number of K15⁺ cells in the bulge. Mean ($\pm$) SEM; N= 30-39 HF/group from 3 donors treated with PTX. Student's t-test



Supplemental Figure 5: (A-E) Nestin and K15 expression in human HF. (A) Positive staining for K15 and nestin in the bulge epithelium of uncultured human hairy scalp skin. (B) Positive staining for K15 in the bulge epithelium of uncultured human hairy scalp skin, while nestin expression is restricted to perifollicular dermis, which seems to correspond to endothelial cells.