

Supplementary Figure S1. Expression patterns of nectin-1 and nectin-3 mRNA in E17 skin. Digoxigenin (nectin-1) and radioisotope (nectin-3) labelled probes were used for in situ hybridization.

Supplementary Figure S2. Macroscopic pictures of ventral skin of control and nectin-1<sup>-/-</sup>; nectin-3<sup>+/-</sup> mice.

Supplementary Figure S3. Triple staining with antibodies against p63 and K14 and with DAPI for the nuclei in nectin-1<sup>-/-</sup>; nectin-3<sup>+/-</sup> epidermis. Arrowheads indicate the same cell in different stainings. The cells that are negative for p63 exhibit disrupted or no expression of K14 (arrowheads).

Supplementary Figure S4. Immunohistochemical analysis of dorsal hair follicle of control and nectin-1<sup>-/-</sup>; nectin-3<sup>+/-</sup> skin. Both p63 and Ki67 expression was weaker in nectin-1<sup>-/-</sup>; nectin-3<sup>+/-</sup> hair follicle than that in control hair follicle.

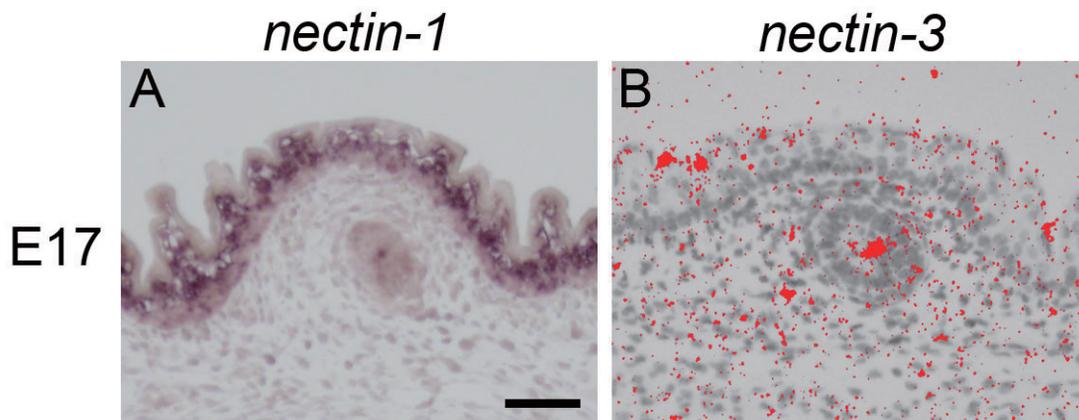
Supplementary Figure S5. The embryonic skin is not affected in the E14 compound mutant. (A and F) Localization of hair placodes at E14 by *Wnt10b* expression using whole mount in situ hybridization (purple dots). The expression pattern and intensity in the double null (nectin-1<sup>-/-</sup>; nectin-3<sup>-/-</sup>) mice is comparable to the control (A and F). (B and G) HE stained histological section shows that the morphology of hair placode is normal in the nectin-1<sup>-/-</sup>; nectin-3<sup>-/-</sup> (C,D,H and I). The expression of K14 and desmoglein 1/2 in the nectin-1<sup>-/-</sup>; nectin-3<sup>-/-</sup> epithelium are comparable with the control.

(E and J) E-cadherin is normally expressed in the ORS and IRS in whisker follicles of nectin-1<sup>-/-</sup>; nectin-3<sup>-/-</sup>. Scale bars, 50 μm in B,G, 30 μm in C,D,H,I, 100 μm in E,J.

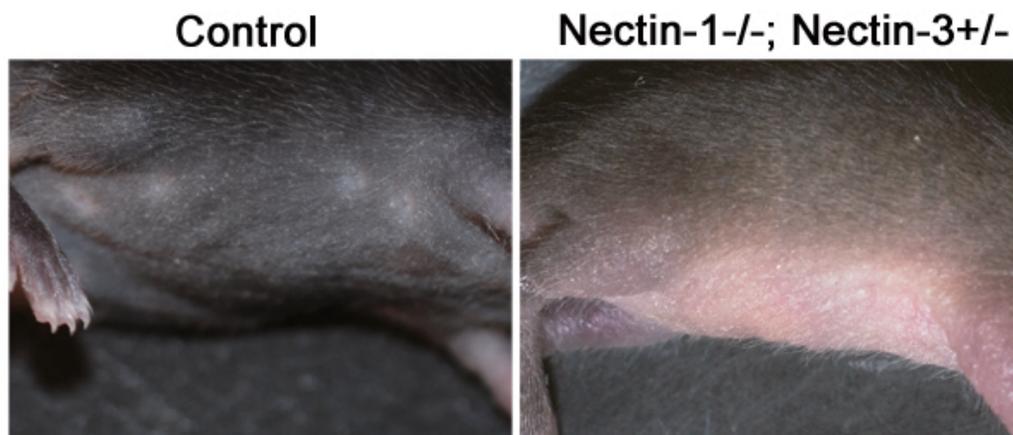
#### Supplementary Figure S6

Macroscopic pictures of control and nectin-1<sup>-/-</sup>; nectin-3<sup>+/-</sup> embryo at E17.

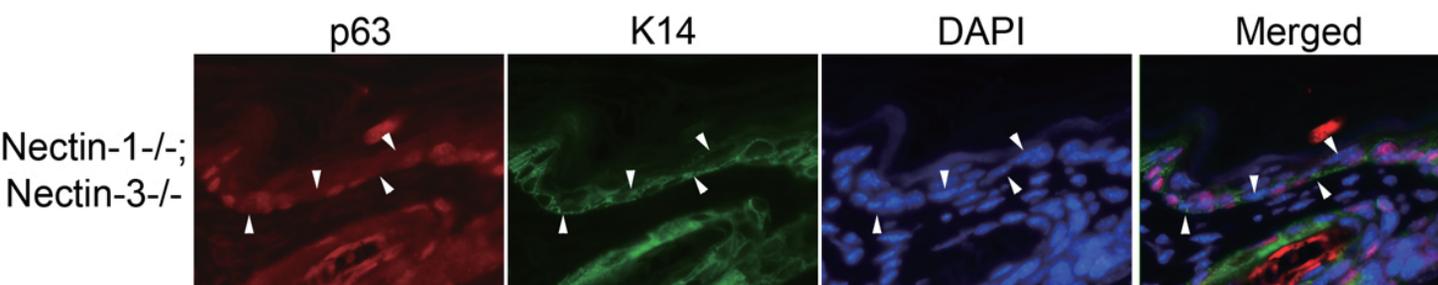
Supplementary Figure S1



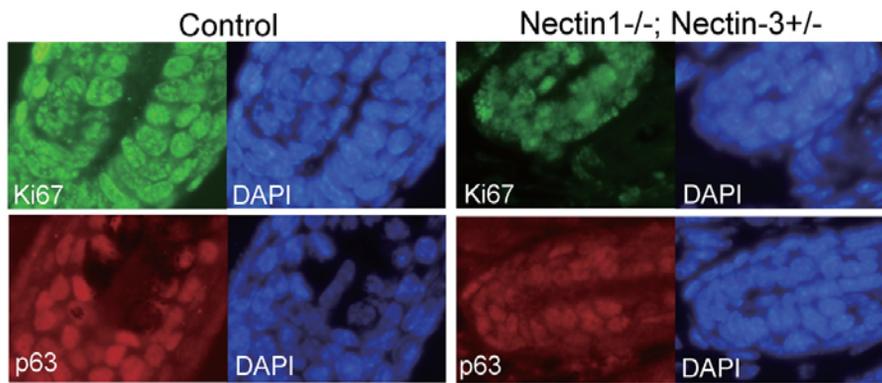
Supplementary Figure S2



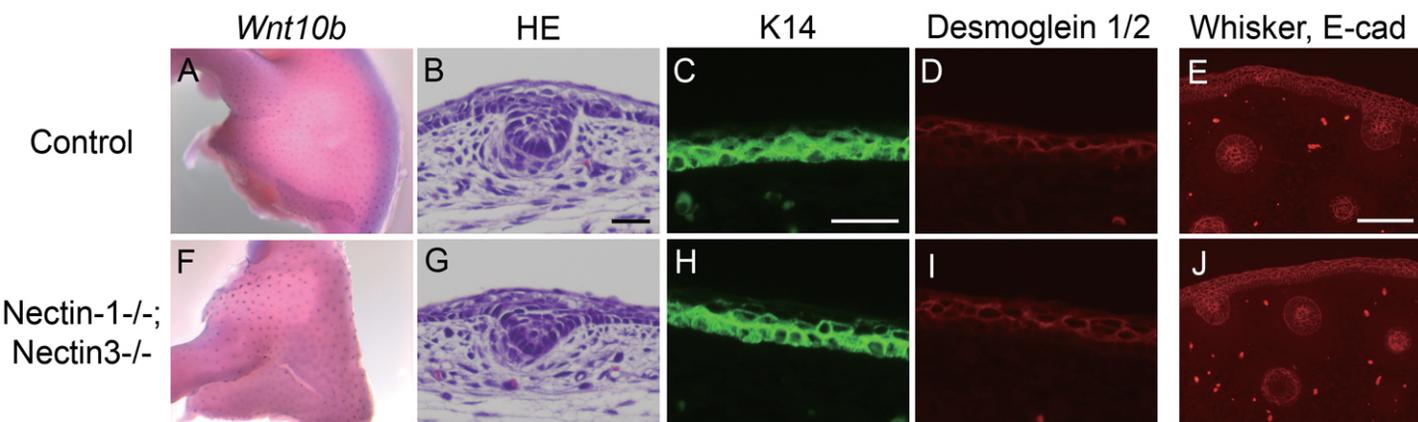
Supplementary Figure S3



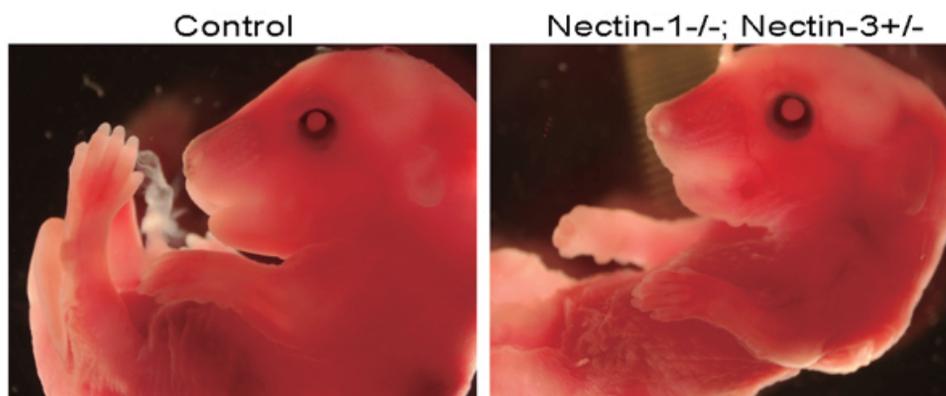
Supplementary Figure S4



Supplementary Figure S5



Supplementary Figure S6



# Supplementary Figure S7

