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Cutaneous Remodelization during the Wound Healing Responses in the toad, *Bombina orientalis*

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The cutaneous remodelization during the wound healing responses in the toad, *Bombina orientalis* are analysed as following 5 typical steps. (1) **Rearrangement of epithelial cells**: regenerated epithelial cells from the excised skin are rearranged after 4 days. Within 10 days, basal epithelial cells contain numerous electron dense kerato-hyalin granules in the cytoplasm. Parakeratosis appeared between 16 to 19 days after injury. (2) **Differentiation of cutaneous glands**: cutaneous glands are newly differentiated within the regenerated dermal layer from 4 days after injury. At the glandular epithelium, two kinds of cells which are, mitochondria-rich cells and granule-producing cells. (3) **Formation of connective tissue**: differentiation of the connective tissues, especially collagen fibers and amorphous ground substances are observed around 7 days after wounding, (4) **Differentiation of chromatophores**: among the several kinds of cutaneous pigment cells, xanthophores are first seen under the basal lamina after 10 days. Immature pterinosomes and carotinoid vesicles have lower electron densities than those of normal pigment granules. (5) **Vessel formation**: formation of blood vessels including endothelial cells appeared beneath the basement membrane at 19 days after injury.

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Degeneration of ocellar photoreceptor system on *Drosophila rdgC* mutant

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The morphological phenotype on ocellus of *Drosophila rdgC* mutant was observed with electron microscope. The result showed the particular phenotype that was not found in other retinal degenerative mutants. The most distinct difference was the orientation of photoreceptor cells. The photoreceptor cells did not attached to corneagenous cells but dropped under corneagenous cells and assembled around newly formed space. Enormous multivesicle bodies caused by the degeneration of photoreceptor cells were frequently found. Rhabdomeres were also severely degenerated in consequence of the mutant. Another degeneration was found in a part of photoreceptor cell, but the degeneration of subrhabdomeric cisternae (SRC) was not found. It was a obvious difference of *rdgC* comparing with other two retinal degenerative mutants, *rdgA* and *rdgB*. As a result, *rdgC* mutant was affected on the attachment between photoreceptor cells and corneogeneous cells, and it suggested the defect of cell-cell attachment. In addition, *rdgC* mutant was accompanied by the defect not only in retina but nerve system. The results were agreed to the reference discussion that the *rdgC* molecule is exist in the nerve.