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We have reported that P450 27C1 is an efficient catalyst of the 3,4-desaturation of all-*trans*-retinol and other retinoids. In fish and amphibians the enzyme is expressed in the retinal epithelium and allows the animals to see near-infrared light. In humans we have shown that P450 27C1 is localized in skin and explains the large fraction of desaturated retinoids in the epidermis. Although we have learned much about the catalytic mechanism of this mitochondrial enzyme, a key question is what the functions of P450 27C1 and desaturated retinoids are in the skin. We have initiated studies with human keratinocytes to address these questions about biological function.

