

Coordinated gating of TRP-dependent channels in rhabdomeral membranes from *Drosophila* retinas

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Using a newly developed dissociation procedure, we isolated the specialized rhabdomeral membranes from *Drosophila* retinal photoreceptors. From these membranes, we have recorded spontaneous active currents in excised patch, voltage-clamp recordings. We observed rapid opening events that closely resembled those ascribed to one class of light-activated channels, TRP. All activity exhibited Ba²⁺ permeability, little voltage dependence, and sensitivity to La³⁺ block. Mutational analysis indicated that the spontaneous activity present in these membranes was TRP-dependent. Excised patches from wild-type rhabdomeral membranes exhibited a wide range of conductance amplitudes. In addition, large conductance events exhibited many conductance levels in the open state. Block of activity by La³⁺ both developed and recovered in a stepwise manner. Our results indicate that TRP-dependent channels have a small unitary conductance and that many channels can be gated coordinately.