

Abstract Submitted
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Effects of the somatic electrical circuit on spontaneous mechanical oscillations of inner ear hair bundles DAMIEN RAMUNNO-JOHNSON, C. ELLIOTT STRIMBU, LEA FREDRICKSON, ALBERT KAO, DOLORES BOZOVIC, UCLA — Under *in vitro* conditions, uncoupled hair bundles of the bullfrog (*Rana catesbeiana*) sacculus have been shown to exhibit spontaneous oscillations. We used a high-speed complementary metal oxide semiconductor camera to track the movements of hundreds of cells in parallel from dozens of preparations. We found that innate bundle movements exhibit a complex profile with multiple periodicities. Experiments inhibiting the electrical resonance in the cell body show a strong effect on the mechanical oscillations of the hair bundles. This indicates that the electrical oscillation is coupled with the mechanical oscillations of the hair bundles.

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