

Abstract Submitted
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Does the stalk contractility of *Vorticella convallaria* depend on the stalk length?¹ EUN-GUL CHUNG, SANGJIN RYU, University of Nebraska-Lincoln — *Vorticella convallaria* is a sessile stalked ciliate living in water, and its stalk coils to move the cell body (zooid) towards its residence substrate at a maximum speed of ~ 50 mm/s. Our previous microfluidics study shows that the isometric tension of the *V. convallaria* stalk is linearly proportional to the stalk length. Based on this observation, we hypothesize that the contractility of *V. convallaria* during normal contraction is also dependent on the stalk length. To investigate our hypothesis, we measured the contraction speed of *V. convallaria* using high-speed videography and evaluated the contractile force and energetics of *V. convallaria* using fluid dynamics modeling.

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