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**Format:** Abstract


**Titin: A Tunable Spring in Active Muscle.**

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**Abstract**

Muscle has conventionally been viewed as a motor that converts chemical to kinetic energy in series with a passive spring, but new insights emerge when muscle is viewed as a composite material whose elastic elements are tuned by activation. New evidence demonstrates that calcium-dependent binding of N2A titin to actin increases titin stiffness in active skeletal muscles, which explains many long-standing enigmas of muscle physiology.

**KEYWORDS:** muscle activation; muscle mechanics; shortening; stiffness; stretch

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