Calcium Binds Troponin-C

Gillespie, ME., Rush, MG.
**Introduction**

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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**Literature references**


Reactome database release: 69

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Troponin (Tn) is the central regulatory protein of striated muscle contraction. Tn consists of three components: troponin I (TNNI3; the inhibitor of actomyosin ATPase), Tn-T (which contains the binding site for tropomyosin) and troponin C (TNNC1, Tn-C). The binding of calcium to TNNC1 abolishes the inhibitory action of Tn on actin filaments. At the start of the striated muscle contraction cycle, a myosin head lacking a bound nucleotide is locked tightly onto an actin filament in a rigor conformation. TNNC1 binds four calcium ions. In an actively contracting muscle this state is very short-lived, being rapidly terminated by the binding of a molecule of ATP.

**Literature references**


**Editions**

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