

# 鸡形目鸟类成熟胸肌中特异性表达的fTnT同工异构型及其生理学意义

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**摘要** 脊椎动物中的肌钙蛋白T (troponin T, TnT) 分为心肌型TnT (cardiac TnT, cTnT)、快肌型TnT (fast skeletal TnT, fTnT) 和慢肌型TnT (slow skeletal TnT, sTnT), 且每种TnT又因mRNA可变剪接 (alternative mRNA splicing) 形成了多种同工异构型, 其中fTnT的同工异构型形式最为复杂。某些鸟类如鸡形目鸟类的成熟快肌 (尤其是胸部快肌) 中特异性表达的TnT同工异构型有如下特点: (1) N端区含有过渡金属离子结合位点——Tx元件 (一般为4~7个重复的H-E/A-E-A-H序列); (2) 与哺乳动物及雏鸟fTnT相比, 其C端区外显子16有很高的表达率。本文还就鸡形目鸟类成熟胸肌中表达的fTnT同工异构型可能具有的生理学意义及应用前景进行了探讨。

The Fast TnT Isoforms Specifically Expressed in Avian Adult Pectoral Muscles of Galliforms and Physiological Significance

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**Abstract:** Three homologous genes have evolved to encode the cardiac, slow and fast skeletal muscle troponin Ts (TnTs) in the vertebrate. Multiple isoforms in each type of TnT are generated through alternative mRNA splicing during the development and the modality of the fast skeletal TnT isoforms is the most complex. The TnT isoforms specifically expressed in avian adult fast skeletal muscle (especially in the adult pectoral muscle) of Galliforms have been characterized as follows: 1. There exist a cluster of transition metal ion binding sites [generally 4~7 repeats of a sequence motif His-(Glu/Ala)-Glu-Ala-His, designated as Tx] in the NH<sub>2</sub>-terminal variable region. 2. Compared with mammalian TnT and the neonatal or young avian TnT, these avian pectoral muscle TnTs prefer to express exon 16 in the COOH-terminal variable region. Furthermore, possible effects of the pectoral fTnT isoforms on the physiological activity are discussed in this article.

**Key words:** Aves; troponin T; isoform

**关键词** [鸟类](#) [肌钙蛋白T](#) [同工异构型](#)

分类号

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## Abstract

## Key words

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