Rat Strain Showing Developmental Changes in Alternative Splicing of the Heart Protein Titin

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a mutant rat strain that shows an altered developmental pattern of titin expression.

Overview

Titin is a very large cardiac protein that determines the resting tension of the heart in rats. Isoforms of titin are generated by alternative splicing of a single titin gene. Titin in embryonic rat hearts is 3.7 million Daltons in size; titin in adult hearts is 3.0 million Daltons; and several intermediate-sized titins are found in the hearts of rats between one- and 25-days old.

The Invention

UW-Madison researchers have now discovered a mutant rat strain that shows an altered developmental pattern of titin expression. In these rats, the developmental transition in titin expression is dramatically retarded, so that titin in a 30-day old mutant rat is the same size as titin in a one-day old normal rat. These mutant animals should enable critical experiments to determine the effect of titin size on cardiac performance.

Applications

- Investigating the role of titin size in cardiac performance

Key Benefits

- Provides a useful model system for understanding the mechanisms controlling alternative splicing

Tech Fields

- Research Tools : Animal & disease models

For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854