Mouse model of spontaneous and permanent atrial fibrillation

Technology #cu14098

Animal models of atrial fibrillation (AFib) are currently available in dog and sheep. These models, however, require prolonged pacing at rapid rates to induce atrial fibrillation. This technology presents a mouse model of spontaneous and permanent atrial fibrillation at a young age. It does not require induction or pacing and significantly simplifies study protocols. Such a mouse model provides a low-cost and reliable means for the study of atrial fibrillation and the development of novel drug candidates targeting this therapeutic area.

Mouse model of spontaneous and permanent atrial fibrillation may lower costs and improve productivity of drug development

While common, animal models typically used for the study of atrial fibrillation require prolonged induction or pacing at a rapid rate to induce AFib. The technology described herein provides a mouse model with permanent atrial fibrillation from a young age. Further, this technology develops spontaneous AFib without the need of induction or pacing. Compared to larger, more common, animal models, this technology provides the opportunity to reduce complexity in study protocols by eliminating induction or pacing, accelerating the turnaround time for preclinical studies, ultimately lowering costs for early drug development and increasing speed to market.

Spontaneous and permanent atrial fibrillation in this mouse model was confirmed via electrocardiogram.

Lead Inventor:

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Applications:

• Mouse model for testing and screening drug candidates
• Mouse model for investigating the effects of atrial fibrillation on younger animals
• Mouse model for understanding the cellular and molecular alterations caused by permanent atrial fibrillation
• Mouse model for studying electrical remodeling during atrial fibrillation

Advantages:

• Permanent atrial fibrillation without the need of induction or pacing
• Simplified study protocols for testing drug candidates targeting atrial fibrillation
• Reduce cost and shorten development cycle for early preclinical trials
• Allow study of atrial fibrillation in young animals

Patent Information:

Patent Pending

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Related Publications:


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