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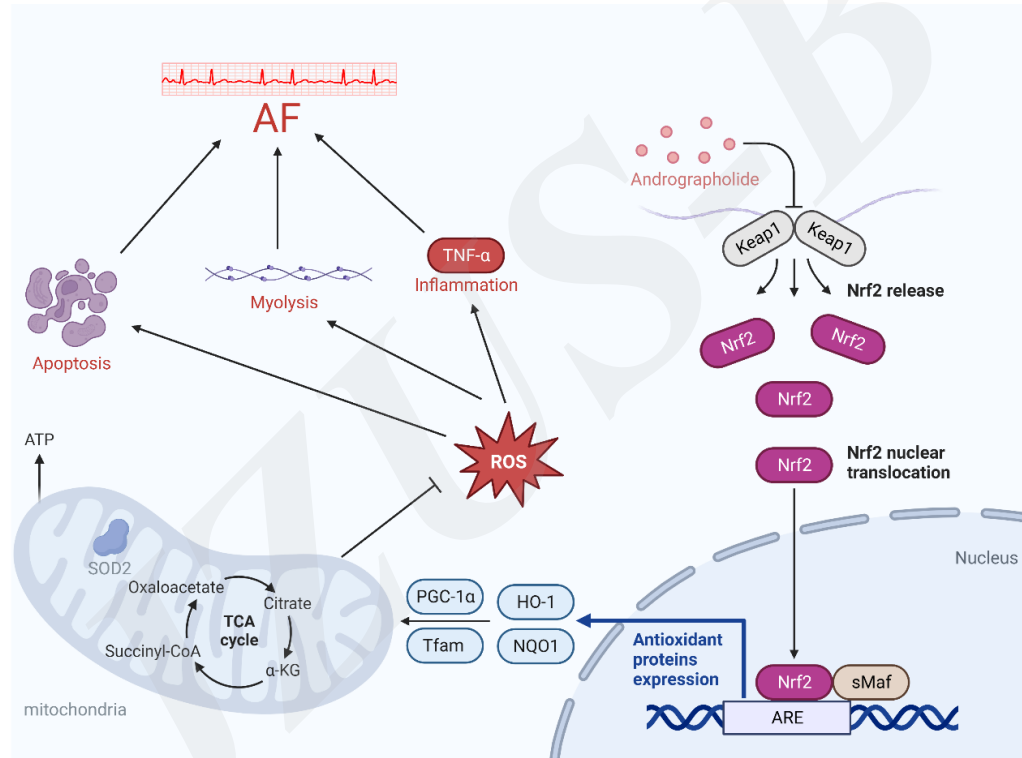
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# Andrographolide protects against atrial fibrillation by alleviating oxidative stress injury and promoting impaired mitochondrial bioenergetics

**Key words:** traditional Chinese medicine, atrial fibrillation, andrographolide, oxidative stress, network pharmacology

# Research Summary

This study mainly focused on the mechanisms of action of andrographolide with respect to atrial fibrillation



- Network pharmacology approaches
- *In vitro* HL-1 cells experiment
- *In vivo* rabbit model study
- RNA sequencing and further validation

# ***Innovation points***

**A series of figures were generated to prove the efficacy of andrographolide on atrial fibrillation *in vitro*.**

**Fig. 2 Andr treatment alleviated myofibril degradation and HL-1 cell apoptosis *in vitro*.**

**Fig. 3 Andr treatment alleviated oxidative stress injury *in vitro*.**

# ***Innovation points***

**A series of figures were generated to prove the efficacy of andrographolide on atrial fibrillation *in vivo*.**

**Fig. 4 Andr treatment attenuated RAP-induced atrial electrophysiological changes *in vivo*.**

**Fig. 6 Andr treatment attenuated RAP-induced atrial inflammation *in vivo*.**

**Fig. 7 Andr treatment influenced the atrial structural remodeling *in vivo*.**

**Fig. 8 Andr treatment alleviated oxidative stress injury *in vivo*.**

# ***Innovation points***

## **RNA sequencing and further validation**

**Fig. 9 Andr exerted a protective effect through regulating the mitochondria.**

**Fig. 10 Andr protected against RAP/RES – it induced atrial myocardial injury by restoring mitochondrial bioenergetics.**

**Fig. 11 Andr treatment attenuated the development of AF by influencing the NRF2-KEAP1 complex.**