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Globular adiponectin-mediated vascular remodeling by affecting the secretion of adventitial-derived tumor necrosis factor- α induced by urotensin II

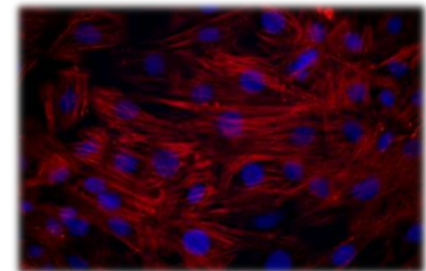
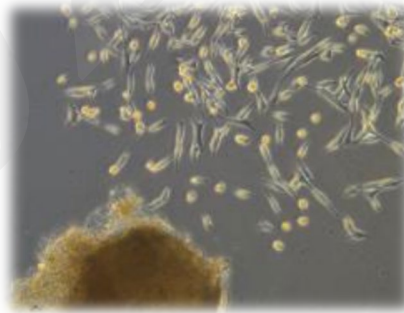
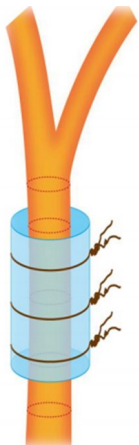
Keywords: Urotensin II; Adiponectin; Signal Transduction; Adventitial Fibroblasts; RNAi; APN-KO

Research Summary

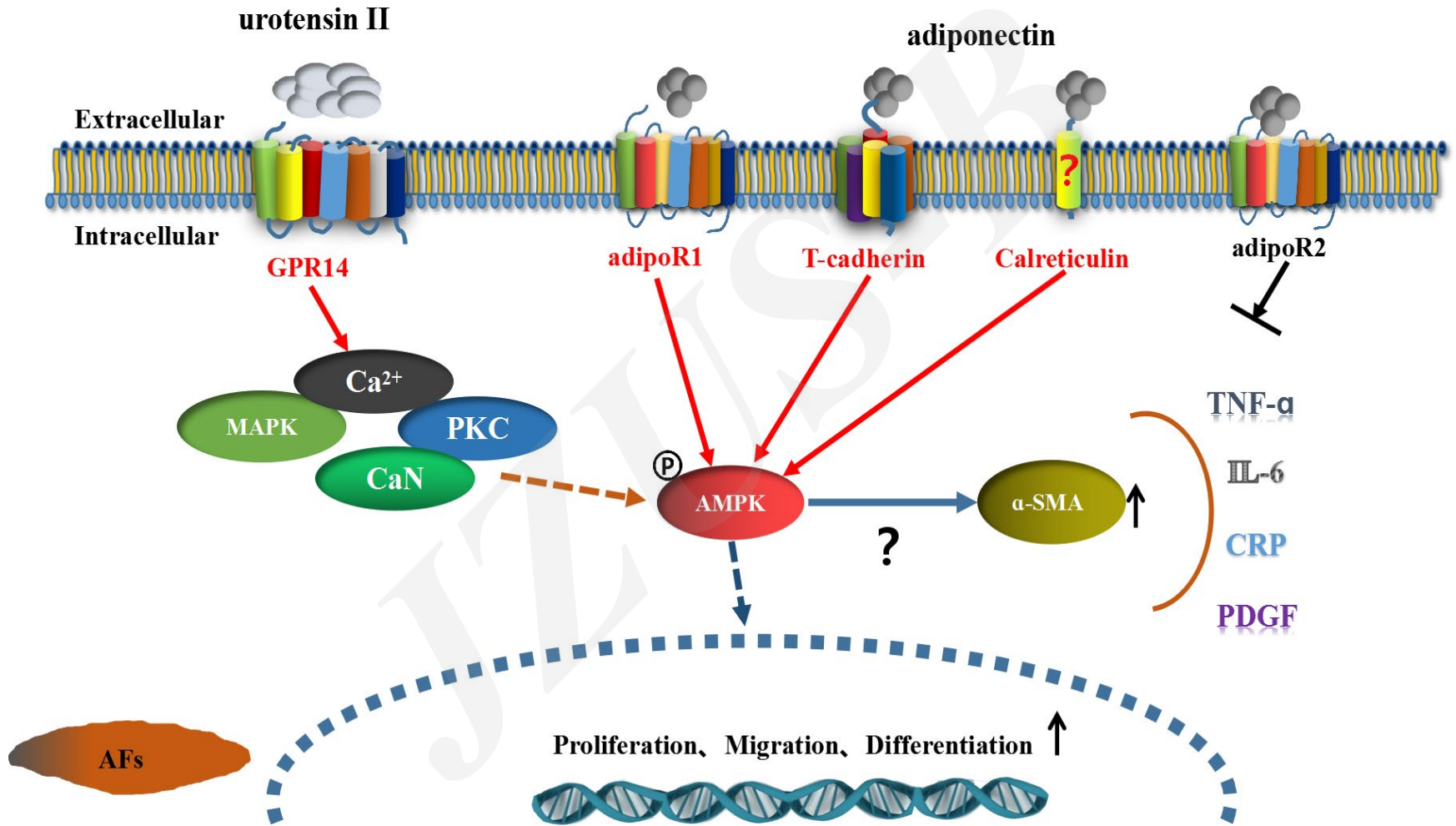
This study mainly focused on how adiponectin mediated Ull-induced TNF- α and α -SMA expression and ensuing intracellular signaling pathways in AFs.



- ◆ Expression of TNF- α / adiponectin and its receptor in AFs
- ◆ Cell signal transduction pathway
- ◆ Carotid adventitia inflammation model in knockout mice



Mechanism of action of adiponectin and UII



Innovation points

- ◆ TNF- α receptors were expressed on the tunica adventitia of vessels and AF and UII were capable [of](#) regulating the expression of TNF- α receptor mRNA in a time-and-concentration dependent manner.
- ◆ UII stimulated TNF- α protein secretion and TNF- α receptor mRNA expression in the tunica adventitia of vessels and AFs via the Rho/PKC pathway
- ◆ Adiponectin synergy with UII induced AFS synthesis with α -SMA and TNF- α via the AdipoR1/T-cadherin/Calreticulin/AMPK pathway
- ◆ Adiponectin synergy with UII induced phosphorylation of AMPK in AFs
- ◆ APN deficiency up-regulated expression of α -SMA, UT, and UII in an adventitial inflammation model, but inhibited expression of TNF- α