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**ANGIOTENSIN II UPREGULATION OF
CARDIOMYOCYTE ADIPONECTIN PRODUCTION IS
NITRIC OXIDE/CYCLIC GMP DEPENDENT**

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Introduction Adiponectin is a circulating cytokine that is now known to be synthesised by cardiomyocytes. Adiponectin production is upregulated in patients with heart failure, with activation of the renin-angiotensin system and increased formation of angiotensin (Ang) II playing a critical role in left ventricular remodelling and heart failure. To determine whether Ang II upregulates adiponectin in hypertrophic cardiomyocytes, the authors need to explore the underlying mechanisms that could be involved.

Methods neonatal rat ventricular myocytes (NRVMs) were treated with various concentrations of Ang II, and adiponectin expression was measured by qPCR and immunoblotting.

Results Adiponectin mRNA expression was significantly increased by Ang II at concentrations from 10^{-6} to 10^{-8} M and was increased in a time-dependent manner at concentrations of 10^{-7} M. Angiotensin type-2 receptor activation is required for AngII-stimulated effects on adiponectin. A nitric oxide synthase inhibitor (Nx-nitro-Larginine methyl ester hydrochloride) and an analog of cGMP antagonist (Rp-8-Br-CGMP-S) blocked Ang II-mediated upregulation of adiponectin.

Conclusions These data suggest a mechanism whereby Ang II upregulates adiponectin in NRVMs via the angiotensin type-2 receptor/nitric oxide/cGMP/ protein kinase G signalling pathway.