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**SYNERGISTIC INDUCTION OF ADIPONECTIN GENE EXPRESSION AND SECRETION BY ENDOTHELIN-1 AND ANGIOTENSIN II IN CARDIOMYOCYTE**

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**Objectives** We have demonstrated previously that angiotensin (Ang) II may upregulate adiponectin expression in hypertrophic cardiomyocytes via the angiotensin type-2 receptor/nitric oxide/cGMP signalling pathway. In this study, we further examined the combined effect of endothelin (ET)-1 and Ang II on adiponectin gene expression and secretion.

**Methods** neonatal rat ventricular myocytes (NRVMs) were treated with various concentrations of Ang II and (or) ET-1, adiponectin expression was measured by qPCR. Adiponectin release was measured by enzyme-linked immunosorbent assay.

**Results** ET-1 and Ang II induced adiponectin release in a synergistic manner that can be attributed to their synergistic induction of adiponectin gene expression, as evidenced by adiponectin mRNA analysis. Both ETA and ETB receptors seem to be involved. A nitric oxide synthase inhibitor (Nx-nitro-L-arginine methyl ester hydrochloride) and an analogue of cGMP antagonist (Rp-8-Br-cGMP-S) also partly blocked ET-1-mediated up regulation of adiponectin.

**Conclusions** ET-1 and Ang II may boost adiponectin secretion in a synergistic manner, probably through their synergistic induction of adiponectin gene expression in NRVMs. A common mechanism via the nitric oxide/cGMP/protein kinase G signalling pathway may be involved.