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**PROTECTION OF ECHINOCYSTIC ACID ON THE
PRIMARY CULTURED RAT CARDIOMYOCYTES
SUBJECTED TO ANOXIA/REOXYGENATION INJURY**

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Objectives To study the protection effects of Echinocystic acid (Ech) on the primary cultured rat cardiomyocytes subjected to anoxia-reoxygenation (A/R) injury.

Methods The primary cultured neonatal rat cardiomyocytes were pretreated with Ech ($0.5 \mu\text{mol l}^{-1}$, $5 \mu\text{mol l}^{-1}$ and $50 \mu\text{mol l}^{-1}$) or Ech ($5 \mu\text{mol l}^{-1}$) and L-NAME (0.1 mmol l^{-1}), PD98059 ($50 \mu\text{mol l}^{-1}$) respectively for 1 h, and subjected to A/R injury after 24 h. Cell viability, the activities of SOD and GSH-Px, MDA contents, LDH activity in medium and HSP70 protein expression were measured.

Results Pretreatment with Ech decreased LDH activity and MDA contents, and increased cell viability, the activities of SOD and GSH-Px in a concentration-dependent manner, and increased HSP70 protein expression. The heart protective effects of Ech were partly abolished by L-NAME or PD98059.

Conclusions Pre-treatment with Ech 24 h before ischaemia, can induce delayed cardio protective effects by activation of NO and MAPK signalling pathways and followed increased expression of HSP70 in rat neonatal cardiomyocytes.

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