

 中文标题 检索 跨刊检索

白藜芦醇对缺氧诱导大鼠乳鼠心肌细胞损伤的保护作用

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中文摘要:目的: 观察白藜芦醇(Res)对缺氧诱导大鼠乳鼠心肌细胞损伤的保护作用。方法: 建立体外培养大鼠乳鼠心肌细胞缺氧模型, MTT法检测心肌细胞活力, 免疫组织化学法检测心肌细胞缺氧诱导因子-1 α (HIF-1 α)表达水平, 检测心肌细胞培养液中乳酸脱氢酶(LDH)水平和心肌细胞内谷胱甘肽过氧化物酶(GSH-Px)活性。结果: 大鼠乳鼠心肌细胞在体外缺氧培养24 h后, HIF-1 α 表达水平明显升高, 心肌细胞培养液中LDH活性从正常对照组的(93.07 \pm 15.84) U \cdot L $^{-1}$ 上升到(750.77 \pm 181.51) U \cdot L $^{-1}$ ($P < 0.01$); 心肌细胞内GSH-Px活性从正常对照组(46.96 \pm 8.36) U \cdot mL $^{-1}$ 下降为(27.13 \pm 4.76) U \cdot mL $^{-1}$ ($P < 0.01$)。25.50, 75 μ mol \cdot L $^{-1}$ Res可剂量依赖性抑制缺氧诱导大鼠乳鼠心肌细胞内HIF-1 α 表达增加; 心肌细胞培养液中LDH含量呈剂量依赖性下降, 分别为(486.17 \pm 69.97), (189.43 \pm 32.07), (155.34 \pm 29.57) U \cdot L $^{-1}$ ($P < 0.05$ 或 $P < 0.01$)。心肌细胞内GSH-Px活性呈剂量依赖性升高, 分别为(33.55 \pm 6.34), (37.67 \pm 6.73), (41.44 \pm 7.91) U \cdot mL $^{-1}$ ($P < 0.05$ 或 $P < 0.01$)。结论: Res对缺氧诱导大鼠乳鼠心肌细胞损伤有良好的保护作用。

中文关键词: 白藜芦醇 大鼠乳鼠心肌细胞 缺氧 缺氧诱导因子-1 α

Protective effects of resveratrol on neonatal rat cardiomyocyte lesion induced by hypoxia

Abstract: Objective: To investigate the effects of resveratrol(Res) on neonatal rat cardiomyocyte lesion induced by hypoxia. Method: The cardiomyocyte of neonatal rats were cultured *in vitro* and the model of cardiomyocyte hypoxia was established. The cardiomyocyte vitalities were determined by MTT assay, the HIF-1 α expression levels in myocardial cells was detected by immunohistochemical, the activities of peroxidase(GSH-Px) and lactate dehydrogenase(LDH) were measured as well. Result: After the administration of hypoxia for 24 hours, the HIF-1 α expression in myocardial cells was significantly increased. The LDH level in the culture medium was increased from (93.07 \pm 15.84) U \cdot L $^{-1}$ to (750.77 \pm 181.51) U \cdot L $^{-1}$ ($P < 0.01$). The intracellular GSH-Px activity was decreased from (46.96 \pm 8.36) U \cdot mL $^{-1}$ to (27.13 \pm 4.76) U \cdot mL $^{-1}$ ($P < 0.05$). Res 25.50 and 75 μ mol \cdot L $^{-1}$ could dose-dependently inhibit the raising of the HIF-1 α expression in myocardial cells induced by hypoxia. The LDH activities were decreased dose-dependently to (486.17 \pm 69.97), (189.43 \pm 32.07), (155.34 \pm 29.57) U \cdot L $^{-1}$, respectively ($P < 0.05$ or $P < 0.01$). The GSH-Px activities were increased dose-dependently (33.55 \pm 6.34), (37.67 \pm 6.73), (41.44 \pm 7.91) U \cdot mL $^{-1}$ ($P < 0.05$ or $P < 0.01$). Conclusion: Res has a protective effect on neonatal rat cardiomyocyte lesion induced by hypoxia.

keywords: resveratrol neonatal rat cardiomyocyte hypoxia hypoxia-inducible factor-1 alpha

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