

回心草对心肌细胞缺氧损伤的保护作用

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中文摘要:目的: 研究回心草水提液对心肌细胞缺氧损伤的保护作用, 并从氧化应激角度探讨其作用机制。方法: 原代培养乳鼠心肌细胞, 以 $3 \times 10^5 \sim 5 \times 10^5$ /mL密度接种于96孔板后第4天用无血清DMEM/F12培养48 h, 然后置于缺氧环境(37 °C, 94%N₂, 1%O₂, 5%CO₂)中继续孵育24 h, 建立体外心肌细胞缺氧损伤模型, 并采用噻唑蓝(MTT)法测定1, 2, 3, 4, 5 g · L⁻¹回心草水提液干预24 h后细胞的活力; 利用全自动生化分析仪测定细胞上清液中乳酸脱氢酶(LDH)、肌酸激酶(CK)、超氧化物歧化酶(SOD)、丙二醛(MDA)的含量。结果: 回心草水提液可提高缺氧损伤心肌细胞的活力, 其中3, 4 g · L⁻¹组的吸光度(A)分别为(0.529 ± 0.031), (0.534 ± 0.024), 与缺氧损伤组A值(0.498 ± 0.012)比较差异显著(P < 0.05, P < 0.01); 能降低LDH, CK活性和MDA含量, 提高SOD活性, 其中以回心草水提液3 g · L⁻¹组效果最佳。结论: 回心草水提液能够保护缺氧损伤的心肌细胞, 可能与其改善氧化应激有关。

中文关键词: [回心草](#) [心肌细胞](#) [噻唑蓝](#) [氧化应激](#)

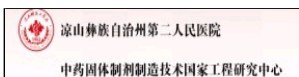
The Protective Effect of *Rhodobryum giganteum* on Cardiocytes Injured by Hypoxia

Abstract: Objective: To study the effect of *Rhodobryum giganteum* water extract on cardiocytes injured by hypoxia and explore its mechanism from the perspective of oxidative stress. Method: The injured cardiocyte model induced by hypoxia was established as follows: $3 \times 10^5 \sim 5 \times 10^5$ /mL primary cultured neonatal rat cardiomyocytes seeded in 96-well plates were cultured for 48 h in serum-free DMEM/F12, and then placed in hypoxia (37 °C, 94%N₂, 1%O₂, 5%CO₂) to incubate for another 24 h. 1, 2, 3, 4, 5 g · L⁻¹ water extract of *R. giganteum* was added to cultivated injured cardiocytes, and after 24 h, the activity of the cells was carefully determined by A value with MTT method. Activity of super oxide dismutase (SOD), malonaldehyde (MDA), lactate dehydrogenase (LDH) and creatine kinase (CK) in medium was assayed by automatic biochemistry analyzer. Result: The A values indicated that 3, 4 g · L⁻¹ *R. giganteum* water extract groups increased activity of the cells significantly compared with the model group (0.498 ± 0.012) (P < 0.05, P < 0.01). And it could reduce LDH, CK activity and MDA levels and increase SOD activity in medium, and 3 g · L⁻¹ group was much better than other dose groups. Conclusion: Water extract of *R. giganteum* has protective effect on cardiocytes injured by hypoxia, the mechanism may be related to inhibiting oxidative stress.

keywords: [Rhodobryum giganteum](#) [cardiomyocyte](#) [MTT](#) [oxidative stress](#)

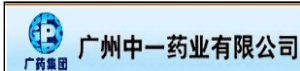
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