

عنوان مقاله:

Pioglitazone alleviates oxygen and glucose deprivation-induced injury by up-regulation of miR-۴۵۴ in H۹c۲ cells

محل انتشار:

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تعداد صفحات اصل مقاله: 6

نویسندگان:

Nianzi Sun - *Shandong University, Jinan ۲۵۰۱۰۰, Shangdong, China*

Lin Yang - *Department of Equipment, Linyi People's Hospital, Linyi ۲۷۶۰۰۰, Shandong, China*

Qian Zhang - *Department of Cardiac Surgery, Provincial Hospital Affiliated to Shandong University, Jinan ۲۵۰۰۲۱, Shandong, China*

Chengwei Zou - *Department of Cardiac Surgery, Provincial Hospital Affiliated to Shandong University, Jinan ۲۵۰۰۲۱, Shandong, China*

خلاصه مقاله:

Objective(s): Pioglitazone, an anti-diabetic agent, has been widely used to treat type II diabetes. However, the effect of pioglitazone on myocardial ischemia reperfusion injury (MIRI) is still unclear. Herein, the objective of this study is to learn about the regulation and mechanism of pioglitazone effects on oxygen glucose deprivation (OGD)-induced myocardial cell injury. **Materials and Methods:** A cellular injury model of OGD-treated H۹c۲ cells in vitro was constructed to simulate ischemic/reperfusion (I/R) injury. Then, various concentrations of pioglitazone (۰, ۲.۵, ۵, ۷.۵ and ۱۰ μ M) were used for the treatment of H۹c۲ cells, and CCK-۸, flow cytometry and western blot assays were performed to examine cell viability, apoptosis, and the protein levels of factors involved in cell cycle and apoptosis in OGD-treated cells. MiR-۴۵۴ inhibitor was used to suppress miR-۴۵۴ expression, and whether miR-۴۵۴ was involved in regulating OGD-induced cell injury was studied. Two key signal pathways were examined to uncover the underlying mechanism. **Results:** OGD reduced cell proliferation and induced apoptosis in H۹c۲ cells ($P < ۰.۰۵$, $P < ۰.۰۰۵$). **Conclusion:** Pioglitazone protected H۹c۲ cells against OGD-induced injury through up-regulating miR-۴۵۴, indicating a novel therapeutic strategy for treatment of MIRI.

کلمات کلیدی:

ERK/MAPK, MicroRNA-۴۵۴ Oxygen glucose deprivation Pioglitazone PI۳K/AKT

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