Conclusion Livin over expression could down regulate the expression of caspase-3, attenuate myocardial apoptosis and decrease myocardial infarction sise.

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EFFECTS OF LIVIN OVER-EXPRESSION ON MYOCARDIAL ISCHAEMIA REPERFUSION INJURY IN RATS

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Background Acute myocardial infarction was frequently followed by myocardial ischaemia reperfusion injury (IRI) because of the opening of occluded coronary arteries.[1–3]The mechanisms of IRI have not been elucidated. Recent studies reported that cardiomyocyte apoptosis increased in ischaemia reperfusion (IR).[4] We hypothesized that suppressing the cardiomyocytes apoptosis during IR could protect myocardium from IRI.

Methods (1) Constructing retroviral vector expressing livin. (2) Rats were subjected to 30 min of left coronary artery occlusion followed by 120 min of reperfusion with treating the rats by retroviral vector expressing livin 24 h before left coronary artery occlusion. (3) Both caspase-3 and livin mRNA expression were detected by real time PCR and the caspase-3 protein was detected by immunohistochemical study; (4) Cardiomyocyte apoptosis was evaluated with TUNEL assay. (5) Myocardial infarction size were detected by TTC dyeing method.

Results (1) caspase-3 mRNA expression increased during IR and decreased significantly after the transfection of retroviral vector expressing livin. (2) The apoptosis index and MI size in IR group were increased and decreased significantly in livin group.