

Changes in Electrical Activity of Working Myocardium Under Condition of If Current Inhibition

Abramochkin D., Faskhutdinov L., Filatova T., Ziyatdinova N.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2015, Springer Science+Business Media New York. The study examined the effect of ZD7288, a blocker of hyperpolarization-activated “funny” current I_f , on electrical activity in working atrial and ventricular myocardium in rats. In concentrations range from 3×10^{-6} to 3×10^{-5} M, the agent significantly increased the duration of action potentials at 50 and 90% repolarization levels in both atrial and ventricular myocardium at the fixed stimulation rate of 5 Hz. The blocker affected neither resting potential nor the upstroke velocity of action potential. In patch-clamp experiments, ZD7288 selectively inhibited I_f current, but produced no effect on delayed rectifier potassium currents that determine the rate of repolarization. The described effects of ZD7288 are not related to its non-specific effects on the ionic currents except I_f .

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Keywords

action potential, atrium, I_f current, ionic currents