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

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### 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  $3 \times 10^{-6}$  to  $3 \times 10^{-5}$  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