

Bulletin of Experimental Biology and Medicine 2016 vol.161 N6, pages 746-748

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## Effect of I<sub>Ca,L</sub> blockade on adrenergic stimulation in developing heart

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### Abstract

© 2016 Springer Science+Business Media New York. The effect of verapamil-induced blockade of L-type calcium ionic currents (I<sub>Ca,L</sub>) on the action of non-selective adrenergic cardiac stimulation by norepinephrine was examined during different periods of early postnatal ontogeny. In 1-week-old rats, intravenous norepinephrine induced a short-term tachycardia both with and without preliminary injected verapamil. In 3-week-old rats, norepinephrine alone produced no chronotropic effect; in contrast, it induced a biphasic tachycardia in verapamil-treated rats. In 6- and 20-month-old rats, norepinephrine induced a short-term tachycardia, which could be prevented by verapamil. The age-related peculiarities of chronotropic action of non-selective adrenergic stimulation are indicative of the role of L-type calcium ionic channels in the development of sympathetic control over the heart.

<http://dx.doi.org/10.1007/s10517-016-3500-5>

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### Keywords

Adrenoreceptors, Chronotropy, Heart, L-type Ca channels 2+, Ontogeny