

C14**Inhibition of Acetylcholine-activated K^+ Current by Chelerythrine and Bisindolylmaleimide I in Atrial Myocytes from the Mice**

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The effects of protein kinase C inhibitors, chelerythrine and bisindolylmaleimide I, on acetylcholine activated K^+ currents ($I_{K_{ACh}}$) were examined in atrial myocytes of mice using patch clamp technique. Chelerythrine and bisindolylmaleimide I inhibited $I_{K_{ACh}}$ in reversible and dose-dependent manners. Half maximal effective concentrations were $0.49 \pm 0.01 \mu\text{M}$ for chelerythrine and $98.69 \pm 12.68 \text{ nM}$ for bisindolylmaleimide I. However, $I_{K_{ACh}}$ was not affected either by calphostin C which is also known as a protein kinase C inhibitor, or by a protein kinase C activator, phorbol 12,13-dibutyrate. When K_{ACh} channels were activated directly by adding 1 mM GTP γ S to the bath solution in inside-out patches, chelerythrine (10 μM) decreased the open probability from 0.043 ± 0.01 to 0.014 ± 0.007 ($n = 5$), but bisindolylmaleimide I did not affect the channel activity. From these results, it is concluded that both chelerythrine and bisindolylmaleimide I inhibit K_{ACh} channels independently of protein kinase C inhibition, but the level of inhibition is different.