

عنوان مقاله:

Contribution of BK Channels in the firing activity of Purkinje Cells

محل انتشار:

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خلاصه مقاله:

BK channels are large-conductance voltage and Ca^{2+} -activated K^{+} channels available on the membrane of many types of neurons including cerebellar Purkinje cells. The role of these channels on electrophysiological behavior of Purkinje cells has been investigated in several experimental studies, including those that used Iberitoxin as BK-specific channel blocker. However, these studies have not led to a conclusion about the role of BK channels. In this study, two realistic models of Purkinje cell with and without dendritic branches were used to investigate the functional contribution of BK channel currents to the firing activity of Purkinje cells. The results obtained from these models indicate that Purkinje cell spiking rate was slightly dependent on BK channel conductance. Block of the BK channel had no significant effect on the action potentials amplitude, but increased the duration of action potentials and the AHP amplitude.

کلمات کلیدی:

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