



## Effect of E65 and E70 splice isoforms on electrophysiological properties of Kv10.1

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GRIN Verlag Gmbh Okt 2013, 2013. Taschenbuch. Book Condition: Neu. 210x148x1 mm. This item is printed on demand - Print on Demand Neuware - Project Report from the year 2013 in the subject Biology - Diseases, Health, Nutrition, grade: 1.3, University of Göttingen (Max Plank Institute for Experimental Medicine), language: English, abstract: Kv10.1, the voltage-gated non-inactivating delayed rectifier potassium channel, is overexpressed in variety of cancer cells and is involved in oncogenesis and tumor progression. Its splice variants E65 and E70, which were discovered in melanoma cell lines, have no conducting abilities but may physically interact with Kv10.1 and thereby regulate its function. Here, we investigated possible influence of E65 and E70 on electrophysiological properties of Kv10.1. Analysis of current-voltage relationships revealed a dose-dependent reduction of Kv10.1 current mediated by both splice variants. The channel demonstrated characteristic feature of activation kinetics, a Cole-Moore shift, irrespective of the isoforms presence. Both E65 and E70 were able to increase the rise time after -60 mV conditioning when expressed at 1:10 ratio with full length channel. Co-expression of E65 or E70 with Kv1.4 did not resulted in considerable changes in channel activity; therefore interactions of splice variants with Kv10.1 are likely to be...



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