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## Modulated by gasotransmitters: BK channels

Hermann A., Sitdikova G., Weiger T.

*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

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### Abstract

© Springer-Verlag Berlin Heidelberg 2012. All rights are reserved. Calcium-activated potassium BK channels interconnect cellular activity, calcium signaling, and cell metabolism. Major virtues of these channels are their adaptability to different functions, their versatile physiology, and their capacity being modulated. The channels are present in a large variety of cells and organs in different forms of life from bacteria to men. Scientists attracted to these channels have produced a great wealth of information regarding their structure and function. Mutations at channels proteins are involved in a number of diseases (channelopathies), like diabetes, epilepsy, or heart failure. The gasotransmitters NO, CO, and H<sub>2</sub>S all act on BK channels directly or indirectly via signaling pathways. In this chapter, we will briefly summarize some of the basic properties of BK channels and focus on aspects of BK channel modulation by gasotransmitters and their implications in physiology and pathophysiology.

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### Keywords

BK channel, Calcium-activated potassium channel, Carbon monoxide (CO), Hydrogen sulfide (H<sub>2</sub>S), Nitric oxide (NO)