

# BKCa通道的结构与功能

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BKCa通道将细胞膜电特性与细胞信号系统联系在一起, 在细胞功能实现中起着重要作用。该通道广泛且又较高密度地表达于许多物种的多种组织, 其分子结构复杂, 丰富的超家族成员具有各自不同的表达分布。BKCa通道的分子结构由 $\alpha$ 亚单位和 $\beta$ 亚单位构成, 其中 $\alpha$ 亚单位形成通道的孔道区和活性调节区域,  $\beta$ 亚单位修饰通道活性的调节特性。BKCa通道开放几率大、电导率高、调控位点多, 并且不同的超家族成员表现出不同的功能特征, 如细胞膜电位感受性、细胞内游离钙离子敏感性等。文章概述BKCa通道的分子结构和功能特征。

## Structure and function of the BKCa channel

BKCa channel couples the plasma membrane electrical property with the intracellular signal system, thus plays important roles for cellular functions. This channel, which molecular structure is complicated, expresses in various tissues of many species widely, densely and area-specifically. The molecular structure of the BKCa channel is comprised of the  $\alpha$ -subunit and the  $\beta$ -subunit, in which  $\alpha$ -subunit forms the pore region and the regulation region of channel activity, and  $\beta$ -subunit modifies the role of the regulation region. BKCa channel has higher open-possibility, larger conductance and multi-regulation sites; furthermore its different superfamily members show different functional properties, such as the membrane voltage activity and intracellular free calcium activity. In the review, the authors summarized the molecular structure and functional properties of the BKCa channel.

### 关键词

BKCa 通道(BKCa channel); 表达(Expression); 结构(Structure); 功能(Function); 调控(Regulation)