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GTPγs对柴胡皂甙(I)刺激胰腺腺泡酶分泌的影响

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为了解柴胡皂甙(I)[SA(I)]刺激大鼠胰腺腺泡酶分泌的信号传导通路,研究了GTPγs对SA(I)刺激通透腺泡细胞酶分泌的影响。用SLO通透细胞的同时,加入GTPγs在15min期间能诱发酶分泌,10^{-7}mol.L^{-1}GTPγs有最大促泌效应。GTPγs浓度依赖性的增强SA(I)促酶分泌作用,10^{-7} mol.L^{-1} GTPγs导致10^{-5}mol.L^{-1} SA(I)刺激酶分泌量增加到1.6倍。 用SLO预通透腺泡10min后,加入GTPγs使SA(I)刺激酶分泌的量-效曲线左移,SA(I)的EC_{50}从2.0×10^{-5}mol.L-1减小到1.0×10^{-5}mol.L^{-1}。 以上结果提示,SA(I)活化受体偶联的G蛋白包括在其刺激酶分泌的信号传导通路中。

GTPγs MODULATION OF SAIKOSAPONIN(I) STIMULATED AMYLASE SECRETION IN ISOLATED PANCREATIC ACINI

To elucidate the site of action of Saikosaponin (I) [SA(I)] in pancreatic acinar cells, the modulatory effects of guanosine 5'-[γ-thio] triphosphate(GTPγs) were investigated in SLO permeabilized pancreatic acinar cells. In a permeabilizing medium, GTPγs addition induced 15min amylase secretion, the effects being maximal at 10^{-7}mol.L^{-1}. GTPγs effects were concentration dependent. GTPγs 10^{-7}mol.l^{-1} increased amylase secretion stimulated by 10^{-5}mol.L^{-1} SA(I) 1.6 fold. After acinar cells were pre-permeabilized with SLO for 10 min, GTPγs shifted the dose-response curve of SA(I) stimulated amylase secreion to the left, decreasing EC_{50} from 2.0×10^{-5} to 1.0×10^{-5}mol.L^{-1}. These results suggest receptor-coupled G protein activation is involved during SA(I) stimulation of amylase secretion.

关键词

柴胡皂甙(I)(Saikosaponin(I)); GTPγs; 胰腺腺泡(Pancreatic acini); 酶分泌(Amylase secretion); G蛋白(G protein)