

## 论著

### CRH对人子宫平滑肌细胞Cx43磷酸化水平及细胞间隙连接通讯的影响

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**摘要:** 目的:探讨人类促肾上腺皮质激素释放激素(CRH)对人子宫平滑肌细胞间隙连接蛋白43磷酸化水平(P-Cx43)以及其对子宫平滑肌细胞间隙连接通道(GJIC)功能的影响。方法:原代培养人未孕子宫平滑肌细胞,给予不同浓度的CRH(0, 5.85, 58.5, 585, 5850 pmol/L)进行干预,采用Western印迹分别定量检测CRH各浓度组中子宫平滑肌细胞P-Cx43与非磷酸化Cx43蛋白(NP-Cx43)的表达;细胞划痕实验检测CRH各浓度组中GJIC的变化。结果:CRH各干预组子宫平滑肌细胞中P-Cx43蛋白的表达明显高于对照组,随着CRH干预浓度的递增,呈剂量依赖趋势,各组之间差异有统计学意义( $P<0.01$ );而对照组和干预组之间NP-Cx43蛋白的表达差异无统计学意义( $P>0.05$ );CRH干预后各浓度组荧光黄染料在子宫平滑肌细胞中传输的细胞数明显高于对照组,各组之间比较差异有统计学意义( $P<0.01$ )。同时,随着CRH干预浓度的递增,荧光黄染料传输至最远细胞级所需要的时间呈剂量依赖趋势,各组之间比较差异有统计学意义( $P<0.01$ )。结论:CRH可上调原代子宫平滑肌细胞中P-Cx43蛋白的表达,增强GJIC的功能。

**关键词:** 促肾上腺皮质激素释放激素 间隙连接蛋白43 人未孕子宫平滑肌细胞 分娩

### Effect of corticotrophin-releasing hormone on connexin-43 phosphate and gap junction intercellular communication in human myometrial smooth muscle cells

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**Abstract:** Objective: To determine the effect of human corticotrophin-releasing hormone (CRH) on the expression of connexin-43 phosphate (P-Cx43) in human myometrial smooth muscle cells (SMCs) and the function of cell gap junction intercellular communication in SMCs.

**Methods:** Human non-conceive myometrial SMCs were cultured with different concentrations of CRH (0, 5.85, 58.5, 585 and 5850 pmol/L). Western blot was used to test P-Cx43 and Cx43 non-phosphate (NP-Cx43) of protein expression. Cell scratch was used to test cell gap junction intercellular communication opening status in human myometrial SMCs.

**Results:** Compared with the control group, the expression of P-Cx43 was higher in the CRH groups ( $P<0.01$ ), and was concentration-dependent. There was no significant difference in NPCx43 between the control group and the CRH groups ( $P>0.05$ ). The transmission of cell layers in the CRH groups was higher than that in the control group ( $P<0.01$ ), and as the concentration of CRH increased, the time was concentration-dependant ( $P<0.01$ ).

**Conclusion:** CRH can enhance the expression of P-Cx43 and the function of gap junction intercellular communication in the primary cultured myometrial SMCs.

**Keywords:** corticotrophin-releasing hormone (CRH) connexin-43 (Cx43) human non-conceive myometrial smooth muscle cells delivery

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