孤兒 G 蛋白偶聯受體56於 K562 細胞之功能分析 = Functional analysis of G-protein coupled receptor 56 in K562 cell

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摘 要

megakaryocyte G蛋白偶聯受體（G protein-coupled receptor, GPCR）為細胞表面受器中之最大家族，在人類基因組中有多於1%的基因編碼此類受體。當GPCR接受如香味、風味等刺激後，將細胞外信號轉變為影響生物體生理及細胞反應訊息。GPCR56是GPCR的家族新發現成員之一。對照其他正常之組織，在幾個癌症組織中，GPCR56的表現相對的較高，推測GPCR56為潛在致癌因子。但在黑色素瘤細胞的研究中，卻有相反的研究結果。增強GPCR56表現可抑制黑色素瘤轉移和腫瘤成長，而減少GPCR56也提高腫瘤進展。因此，GPCR56在癌化過程之角色仍然未明。由於GPCR56的表現在K562血癌細胞高於血癌患者達四倍之多，推測降低GPCR56的表現有益於血癌細胞發展或GPCR56與分化為功能性血球有關。本實驗以過量表現GPCR56在K562細胞中，並且以西方墨點轉漬法證明蛋白質之表現性。以及利用RNA干擾方式（RNA interference）來導致GPR56在細胞內靜默。經分析GPCR56之表現不影響細胞生長，而且巨核型細胞數量增加；在Hemin存在下，紅血球γ-球蛋白微幅增加，而β-球蛋白微幅減少；本篇利用RT-PCR檢測顆粒細胞granulocyte（CD13、CD33）；單核細胞monocyte（CD14、CD68）；巨核細胞megakaryocyte（CD41、CD61）等細胞分化族群（cluster of differentiation；CD marker）之表現。其中，CD33、CD41及CD61是增加的；而CD13、CD14及CD68不變。綜合以上結果，推論GPCR56可能參與或領導K562細胞走向巨核細胞。 [英文摘要]

關鍵詞 : G蛋白偶聯受體 ; 單核細胞 ; 顆粒細胞

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