微小 RNA127 促進肺腺癌細胞的侵入能力 = Micro RNA127 promote lung adenocarcinoma cell invasion

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摘 要

肺癌病患具有高死亡率與高轉移率的特徵。經過治療後，超過五年的存活率仍低於15 %。因此如同其他癌症一般，癌細胞發生轉移為影響肺癌病患存活的關鍵因素。近年來許多微核醣核酸（microRNA, miRNA）被認為可以藉由影響致癌基因、抑癌基因以及調控細胞增生與凋亡（apoptosis）的相關基因參與癌細胞的形成與癌細胞轉移機制。文獻指出，在膀胱癌以及直腸癌的研究中發現miR-127的表現量會降低。然而在子宮頸癌的研究中則顯示，miR-127表現量較高與癌細胞的移動具有正相關性。miRNAs約有21 核?・?nucleotide)長，在動物、植物和病毒中都有存在。特定的miRNA可以調控特定基因的功能表現，其所參與的細胞功能包含調控細胞凋亡、胚胎發育、細胞增生(proliferation)和細胞分化等等。因此本研究想要探討miR-127在肺癌中所扮演的角色為何。首先以即時定量聚合酵素連鎖反應(即時定量RT-PCR)檢測正常支氣管上皮細胞(Beas-2B)與肺癌細胞(CL1-0及CL1-5)中miR-127的表現量，結果顯示在肺癌細胞CL1-5中miR-127表現量高於Beas-2B及CL1-0細胞4.9倍。利用pSilencer 3.1 H1 puro 載體的系統在CL1-0細胞中建立miR-127大量表現細胞株（A6、A9、A31、A36）與低表現的對照組（C4、C7、C10）。利用MTT assay與colony formation測試細胞的生長速率，結果顯示miR-127對colony formation不會造成明顯的差異。利用移動與侵入實驗；測試細胞的移動與侵入能力，結果發現在移動能力中，miR-127 A6、A36與mock C10相比較，增加100%的移動能力；在侵入能力中，miR-127 A6、A36與mock C10相比較，增加100 %的侵入能力。而在CL1-5細胞中將miR-127抑制後，實驗結果與CL1-0相同。用預測網址（http://www.targetscan.org/）分析miR-127的目標基因CDX1，也以RT-PCR分析證明，在miR-127大量表現的細胞中（A6、A31及A36），目標基因CDX1會被抑制。另一方面透過二維電泳分析出一個基因：TCP-1，在肺癌細胞中miR-127扮演著促進癌細胞移動與侵入能力的角色。

關鍵詞 : 肺癌 ; 微小RNA ; 微小RNA127 ; 侵入 ; 移動 ; 目標基因 ; 二維電泳

目錄

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