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• 英文關鍵字	Anti-cancer; G0/G1 cell cycle arrest; Apoptosis; Terbinafine		
• 中文摘要	<p>Terbinafine(TB)是目前市售抗黴菌藥物，廣泛應用於皮膚表淺黴菌感染症狀。有關它的抗癌作用在本實驗中首度探討。本實驗利用人類皮膚癌細胞(A431)作為研究材料，發現 TB 可以造成細胞週期停滯於 G0/G1phase，與細胞週期相關之調控蛋白 p21/Cip1 明顯地被誘發，同時 CDK2,與 CDK4kinase 活性亦大幅被抑制。本研究證實 TB 可以誘發 A431 細胞分化，並大量分泌 keratin，另外，在高劑量(40-60μM)TB 處理下，可誘發 A431 細胞凋亡。可以明顯地觀察到細胞內 DNA 斷片(Ladder)與流式細胞儀分析之 sub-G1 族群大量增加。與細胞凋亡相關的蛋白分析則發現 caspases3,8 和 9 的表現有被活化。利用裸鼠之致癌模式，證實 TB 對人類 A431 癌細胞有明顯地抗癌作用，這樣的作用可以應用於臨床上皮膚癌抗癌治療目的。</p>		
• 英文摘要	<p>Terbinafine (TB, lamisil), a promising world widely used oral-antifungal agent, has been used in the treatment of superficial mycosis. In this study, we found that apoptosis but not cell growth arrest was induced by TB (1 .mu.M, for 24h) in human epidermoid carcinoma (A431) cells. The apoptotic effect induced by TB in the A431 cell was not through the general differentiation mechanisms evidenced by evaluation of three recognized markers, including CD11b, CD33, and morphological features. In addition, our results also revealed that TB-induced apoptosis was not through the cellular surface CD 95 receptor-mediated signaling pathway. We found that the mitochondria membrane in the TB-treated HL 60 cells was dissipated by decreasing of the electrochemical gradient led to leakage of cytochrome c from mitochondria into cytosol. Such effects were completely blocked by in vitro transfection of the A431 cells with Bcl-2 overexpression plasmid (A431/Bcl-2). However, our data found that TB-mediated apoptosis could not be completely prevented in the Bcl-2 over expressed (A431/Bcl-2) cells. Such results implied that</p>		

additional mediators (such as caspase-9) other than mitochondria membrane permeability might contribute to the TB-induced cellular apoptosis signaling. This hypothesis was supported by the evidence that administration of caspases-9 specific inhibitor (z-LEHD-fmk) blocked the TB-induced apoptosis. Our studies highlight the molecular mechanisms of TB-induced apoptosis in human epidermoid carcinoma (A431) cells.