• 系統編號	RC9011-0047
• 計畫中文名稱	遠隔轉移及侵入正常組織之癌細胞之錳超氧化物歧化脢
• 計畫英文名稱	Manganese Superoxide Dismutase in Metastatic Carcinoma Cells and in Carcinoma Cells Invading Normal Tissues
• 主管機關	--
• 計畫編號	NSC89-2314-B038-032
• 執行機構	台北醫學院附設醫院耳鼻喉科
• 本期期間	8808 ~ 8907
• 報告頁數	6 頁
• 使用語言	中文
• 研究人員	賴銘堂 Lai, Ming-Tang
• 中文關鍵字	錳型超氧歧化@@；腫瘤轉移；腫瘤侵犯；鱗狀細胞癌
• 英文關鍵字	Mn-superoxide dismutase；Tumor metastasis；Tumor invasion；Squamous cell carcinoma
• 中文摘要	時下的研究認爲 Superoxide radical (O/sub 2//sup -/)與細胞的癌化及癌細胞的轉移可能有關(1~3)；因此在研究癌的發生、轉移及治療之機轉方面，O/sub 2//sup -/及具消除 O/sub 2//sup -/能力之超氧化物歧化@@(Superoxide dismutase; SOD)逐成爲受人囑目的課題。近年的文獻報告顯示，SOD 及 O/sub 2//sup -/，可影響 in vitro 之癌細胞的活動性(Motility)及侵犯性(Invasiveness) (4)。但癌細胞對實體組織之侵犯性及癌細胞發生遠隔轉移之行爲是否與 SOD 或 O/sub 2//sup -1/有關則至今未明。本研究以高敏感度、高特異性免疫組織化學染色法檢測比較 63 件受鱗狀癌細胞侵入之人類頭頸部組織，及 21 件有鱗狀癌細胞轉移之人類頭頸部淋巴結內各類細胞之錳超氧化物歧化@@(Manganese SOD; MnSOD)的相對含量。並比較原發病灶之鱗狀癌細胞與發生遠隔轉移及侵入正常組織之鱗狀癌細胞間 MnSOD 含量之差異。結果發現不僅原發病灶之人類頭頸部鱗狀癌細胞內可檢測出強烈的 MnSOD 陽性染色，侵入人類頭頸部組織之鱗狀癌細胞及發生遠隔轉移至人類頭頸部淋巴結內之鱗狀癌細胞內亦可檢測出強烈的 MnSOD 陽性染色。此強烈的 MnSOD 陽性染色的特徵不因鱗狀癌細胞發生遠隔轉移或侵入正常組織而喪失之特點，除顯示鱗狀癌細胞於發生遠隔轉移或侵入正常組織時仍具強力消除 O/sub 2//sup -/之能力之外，亦意味著發生遠隔轉移或侵入正常組織之鱗狀癌細胞保有與原發病灶之鱗狀癌細胞相似的強烈 MnSOD 陽性染色之表現特性。
• 英文摘要	Recent studies revealed that superoxide radicals (O/sub 2//sup -/) are possibly impliated in the carcinogenesis and invasiveness of carcinoma cells. Studies on O/sub 2//sup -/ and superoxide dismutase (SOD), which can catalyze the dismutation of O/sub 2//sup -/ are thus considered to be important in revealing the possible implication of O/sub 2//sup -/ SOD and in the mechanism of carcingenesis, metastasis of carcinoma cells, and management of carcinoma. It has been reported that suppression of intracellular CuZnSOD (copper-zinc SOD) activity results in enhanced motility

and invasiveness of human squamous carcinoma cells in vitro. The suppressive effect of MnSOD (manganese SOD) on human breast cancer cells in vitro has also been reported. However, whether the change of SOD levels is implicated in the metastasis and invasion of carcinoma cells remains unknown. Sixty-three specimens of squamous cell carcinoma of human head and neck and twenty-one specimens of cervical lymph nodes containing metastatic squamous carcinoma cells were used in this study for detecting and comparing the MnSOD levels in carcinoma cells at original foci, invaded tissues and metastatic sites by immunohistochemical method. The results showed that metastatic squamous carcinoma cells and invading squamous carcinoma cells possess similar high levels of MnSOD as the squamous carcinoma cells in original foci do. The high levels of MnSOD in squamous carcinoma cells implicate the higher ability of squamous carcinoma cells in scanvanging the O/sub 2//sup -/. The results suggests that squamous carcinoma cells may be more resistant to O/sub 2//sup -/, and that invading and metastatic squamous carcinoma cells possess similar high MnSOD levels as squamous carcinoma cells in original foci.