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• 計畫英文名稱	The Snly of Gowth Arest-Secific Genes in Mle Ifertility.		
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• 研究人員	江漢聲 Chiang, Han-Sun		
• 中文關鍵字	生長停滯基因; 精原細胞; PCR 偵測		
• 英文關鍵字	Growth-arrest specific (Gas 8) gene; Spermatogenesis; PCR screening		
• 中文摘要	生長停滯基因(Growth Arrest Specific Gene 簡稱 GAS)第八型在我們先前的研究中發現對小鼠的睪丸曲精小管的各種精原細胞上有所表現，在本研究中，我們希望瞭解是否在人類的生殖細胞中也有同樣的角色。在正常生育男性的睪丸切片中，我們可以把 GAS8 抗體以免疫染色至曲精小管中各種精原細胞和成熟精蟲的尾部上。在精蟲成熟中斷的男性不孕病人睪丸切片中，也可染到不成熟的精原細胞上，而在完全沒有精蟲生成(Sertoli cell only)男性不孕病人的睪丸切片中，則看不到 GAS 8 抗體的染色。在 PCR 對 GAS 8 DNA 的偵測中，我們共作了 328 位各種男性不孕病人的檢查，發現祇有兩位病人以 PCR 的方法偵測不到 GAS 8 DNA 的存在。臨床上來看，屬於完全沒有精原細胞的個案，由本年度的研究結果可以知道，GAS 8 存在於人類各種精原細胞中，以及成熟精蟲的尾部，表示爲相當基本的精蟲生成和成熟掌控的基因。至於 GAS8 如何調控人類精蟲和生育的機轉，進一步的研究正在進行中。		
• 英文摘要	Growth-arrest specific (Gas 8) genes, were originally isolated and cloned from cultured mouse 3T3 cells in serum starvation or contact inhibition. From our previous research, we have identified and characterized two novel growth-arrest specific (Gas 7 and Gas 8) by a retrovirus gene trapping strategy. The amino-acid sequence of Gas 8 is highly conserved between the mouse and human species. In the pubertal development of mouse testis, Gas 8 mRNA was detected at a low level in neonates and young adolescents, but increased rapidly post-meiotically. In our first year study, we found that the expression of the Gas 8 homolog in human normal testis is similar to that in the mouse testis. In the seminiferous tubules from patients with Sertoli cell only syndrome, no Gas 8		

immuno-reaction can be detected. This result further confirms that Gas 8 expression is highly localized in the germ cells, but not in Sertoli cell. Gas 8 showed premature expression in germ cells (Spermatocytes or spermatogonia) in human seminiferous tubules with maturation arrest or hypospermatogenesis. PCR screening by two pairs of Gas 8 specific primers from genomic DNA of 328 patients with male infertility found that two in totally 328 patients were candidates of Gas 8 gene deletion from PCR screening . Based on the result of our first year study, we can conclude that the Gas 8 is functioning as a fundamental gene in the role of spermatogenesis and sperm maturation. For the detail of the mechanism concerning how Gas 8 involved in the human spermatogenesis, further investigation is now ongoing.