



逆齡回春

保證逆齡20歲的秘密
萬能幹細胞回春

年輕 =

機會與希望







返回青春不是夢





年輕20歲

不再是不可能的夢想



脂肪幹細胞回春

幹細胞回春

登上『美國TIME』時代雜誌



媒體爭相報導

幹細胞回春之好處

日本福島壯士取幹細胞保命



1天2餐！壯士飢寒苦撐 取幹細胞保命

2011/03/31 03:01 編譯/綜合報導

【本報綜合報導】日本福島核電廠發生核災後，當地居民生活陷入困境，許多居民為了生存，不得不採取一些極端的措施。

據悉，一些居民為了獲取幹細胞，不惜以身試險，進入核電廠附近，甚至進入核電廠內部，以獲取幹細胞。

「福島壯士」已成為日本核災的代名詞，然而媒體披露，這些救災人員一天只能吃兩餐，穿著鞋子睡地板，沒有換洗衣物，工作條件非常艱苦。當地日本政府承認改善壯士們的生活，並考慮保存壯士的幹細胞，以備醫療所需。

最初只有90人的福島壯士，目前人數已增加到約400人。這些壯士將奉使命與責任前往核災區，然而苛刻的工作環境和高劑量輻射，已動搖壯士們的士氣與體力。

壯士們每天上午7點開始工作，就出發前往廠區內不同地點，8點開始工作，下午5點才返回安全室。每位工作人員每天只能吃兩次斷斷續續的食物，早餐是30片高糖餅乾配蔬果汁，晚餐是加熱的即食牛腩配罐頭。沒有午餐，臨睡前，壯士們互相打氣，然後各自帶著毯子，躺在避開輻射的墊子，席地而眠。會議室、走廊甚至樓梯間都變成通鋪。有些人甚至分不到毯子。

一名看起來精疲力竭的39歲福島壯士告訴日本NHK電視台：「我們喝盡所能避免停留太久，因為我們每天都暴露在輻射中。我過去5天的曝曬量是903微西弗。」他說，經過超過兩周的輪班後。

東電也承認，讓民衆的工作人員供應有困難。東電已派遣約100名員工進入福島第一核電廠，日立公司也派出170人。該公司發言人說，具有核子和科技專業知識的工作人員並不好找。

科學 Easy Learn

帶來希望的再生細胞——幹細胞

幹細胞能分化成各種細胞，修復受損的組織和器官。由於分化具有高度可塑性，因此幹細胞被譽為「萬能細胞」。據估計，100%的幹細胞在體內自然更新，對組織的修復速度極快。

文/陳曉

【路透社】倫敦醫學研究會最近發表的一項研究顯示，幹細胞具有再生能力，可以修復受損的組織和器官。這項研究為幹細胞在治療各種疾病方面的應用提供了新的思路。研究人員發現，幹細胞可以分化成各種細胞，包括神經細胞、肌肉細胞和血細胞等。這意味著幹細胞可以修復受損的神經系統、肌肉組織和血液系統。



【路透社】倫敦醫學研究會最近發表的一項研究顯示，幹細胞具有再生能力，可以修復受損的組織和器官。

分化出新型的幹細胞

幹細胞具有自我更新的能力，可以分化成各種細胞。根據分化能力的不同，幹細胞可以分為多能幹細胞、全能幹細胞和單能幹細胞。多能幹細胞可以分化成所有細胞類型，但只能維持有限次數的分裂。全能幹細胞可以分化成所有細胞類型，並且可以無限分裂。單能幹細胞只能分化成一種細胞類型，並且只能維持有限次數的分裂。

在幹細胞分化過程中，幹細胞會經歷一系列的分裂和分化。首先，幹細胞會分裂成兩個子細胞。然後，其中一個子細胞會繼續分裂，而另一個子細胞會分化成某種細胞類型。這種分化過程是由基因表達的變化所控制的。通過對幹細胞分化過程的研究，科學家可以了解細胞分化的機制，並開發新的治療方法。

摘自《華視新聞》2011/03/31

摘自
《科學人雜誌2010/01/05》

帶來希望的細胞 — 萬能幹細胞

萬能幹細胞回春術

優異的回春效果

青春之本 – 脂肪萬能幹細胞

美麗「活存本」SVF讓你隨時支領青春資本

2011/10/17

醫學界最近對於幹細胞研究，除了研究其分化、增殖和再生功能，也研究其幹細胞的自更新能力。而「SVF」就是利用脂肪幹細胞的自更新能力，透過提取脂肪幹細胞的自更新能力，使你的身體不斷自我修復，而達到內而外的「活」之術。

本文是根據世界醫學雜誌最新研究報告所整理



SVF多美活本 青春活本術！

對於醫學界來說，萬能幹細胞的提取，是醫學界最難的技術之一。而「SVF」就是利用脂肪幹細胞的自更新能力，透過提取脂肪幹細胞的自更新能力，使你的身體不斷自我修復，而達到內而外的「活」之術。

所謂「SVF」，是幹細胞的一種類型，是從脂肪中分離出來，具有自我更新和自我修復能力，可幫助細胞再生，並促進組織修復，是一種非常理想的再生材料。

1. SVF從脂肪中分離出來，不會有任何副作用，也不會產生任何副作用。
2. 具有自我更新和自我修復的能力，能幫助細胞再生，並促進組織修復。
3. SVF能促進組織修復，使細胞再生，並促進組織修復。
4. 具有自我更新和自我修復的能力，能幫助細胞再生，並促進組織修復。

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摘自《醫美人》2011/10/17

脂肪萬能幹細胞可延緩老化

YAHOO! 奇摩新聞

新聞首頁 政治 財經 社會 地方 影視 運動 國際 生活 文教

醫療衛生 美容保健 健康熱門 健康新聞

年輕幹細胞 可延緩變老

中國新聞網 - 2012年1月4日 下午12:08

美國科學家實驗證明，年輕的幹細胞的確可以減緩變老的速度，甚至還能讓壽命延長達三倍的時間。當然，目前的實驗還僅限於白老鼠。

美國匹茲堡大學研究人員給經過基因改造，得了早老症的老鼠，注射年輕老鼠的幹細胞，結果，這些老鼠不但變老的速度慢了下來，腦部和肌肉還長出了新的血管，身體也更壯了。接受年輕幹細胞以後，這些得了早老症的老鼠可以活到六十六天，比沒打年輕幹細胞的早老老鼠，平均二十一到二十八天的壽命長了三倍。

更讓研究人員驚訝的是，年輕幹細胞不一定要注射就能發揮作用。研究人員發現，把年輕幹細胞和早老症幹細胞放在同一個培養皿裡，沒多久，生病的細胞就能變得健康一些。

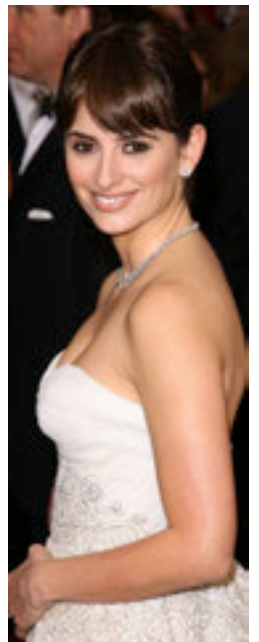
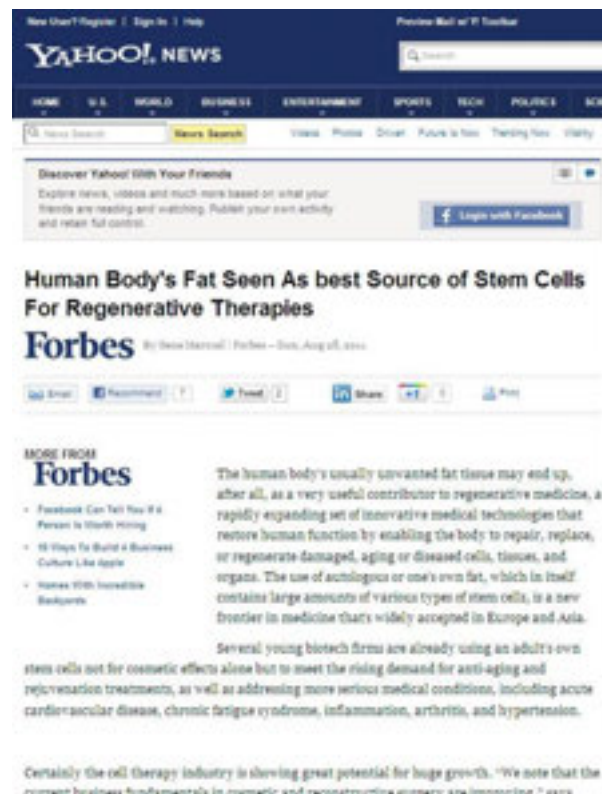
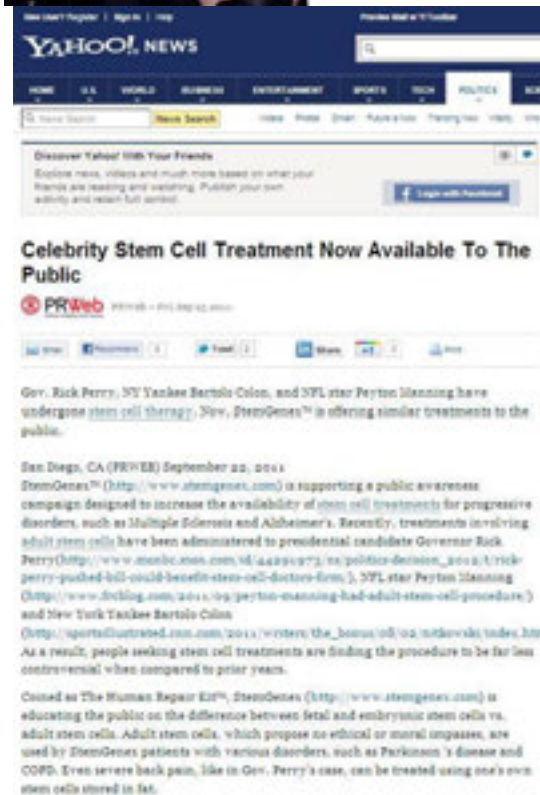
科學家研判，年輕幹細胞能幫助機體一些生了病的細胞，才會出現療效。

摘自《奇摩新聞》2012/01/04



好萊塢名流『瘋』

保持年輕不老的生存之道



美國 YAHOO ! NEWS 2011/08/28



美國 YAHOO ! NEWS 2011/09/23

美國運動明星崇尚幹細胞回春法

增強『爆發力』、『體力』



美國網站SI.COM報導 2011/08/03



美國網站FRCBLOG.com 2011/09/19報導



幹細胞治療的 無限可能

possibilities

自體幹細胞再生心肌 心臟病患免換心

【編譯林翠儀／綜合報導】有心肌梗塞等心臟重症患者，可以不用移植心臟或裝人工心臟，就能用自體幹細胞再生心肌自救！日本各大媒體二日報導，京都府立醫科大學成功研究出最新的幹細胞療法，研究團隊從一名急性心肌梗塞病患的心臟抽出幹細胞，經過培養繁殖後再注入病患心臟，讓這名患者的心臟恢復功能。

日新療法 60歲男心臟恢復功能

一名六十歲的男性病患，今年二月因為急性心肌梗塞送醫急救，由於病患的心臟病，嚴重到以心臟繞道手術也難以大幅改善的程度，松原弘明教授等人所組成的研究團隊，決定對這名病患採取新治療法。

四月時，研究團隊以細管從病患的腹股溝，透過血管通到心臟抽取約十五毫克的組織片，並抽出其中的幹細胞培養了一個多月，讓幹細胞數量繁殖到約四萬倍。

六月一日，研究團隊進行心臟繞道手術的同時，將繁殖後的幹細胞，注入因血流不足導致壞死的左心室壁，並在上方塗抹可促進心肌成長的蛋白質膠膜片。

手術約兩星期後，患者的心臟恢復功能，也沒發生心律不整等副作用。這名患者一日出院，他在出院前記者會上表示，胸部疼痛和心悸已有改善，現在可以走動和淋浴。

松原弘明研究團隊預定在八月進行第二例手術，並將與國立循環器病研究中心共同研究確定安全性後，明年度再與其他大學擴大臨床實驗。松原教授表示，他希望新療法能在十年後，取代現行心臟移植或人工心臟。

摘自《自由電子報》2010/07/03

日本醫科大學成功利用脂肪幹細胞再生骨髓



【大紀元9月26日報導】《中央社東京二十五日綜合外電報導》據朝日新聞報導，日本醫科大學的研究團隊利用老鼠進行實驗，自脂肪中抽取出能發展成各種組織的幹細胞後，成功再生骨髓。骨髓具有造血功能，將來可望應用於白血病等各種血液疾患的治療上。這項研究成果預定十月份在日本整型外科學會發表。

報導指出，日本醫科大學的整型外科學教授百東比古和生化學第二講座教授島田隆領導的研究團隊，將老鼠脂肪組織經酵素處理後，置入離心分離機抽取幹細胞進行培養，移植至皮下後，能再生含有骨髓的骨髓。

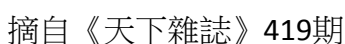
朝日新聞報導指出，幹細胞擁有發展成骨、肌肉和神經等各種組織的潛力。再生醫療通常利用由受精卵製作的胚胎幹細胞或骨髓中的幹細胞進行研究，但血液疾病患者，例大多出在骨髓，因而很難利用骨髓幹細胞。如果能利用可充分取得的脂肪，除可規避倫理道德問題外，亦可避免移植時的排斥反應，對減輕大藥廠經濟負擔。

日本醫科大學整型外科助教小川令表示，「從能再生出骨髓來看，推定其正常造血環境充實。未來可望應用於白血病、骨髓纖維化或骨石化症等血液疾病的治療上。」

摘自《大紀元》2005/09/26

幹細胞治療的無限潛力

郭台銘、歐巴馬都看好!



2012/01/06 中新網

想要拒絕老化??



老化就是細胞的衰老

是細胞代謝機能的降低。隨著年齡的增長，任何人的身體都會出現**成人病或者老化的現象**，這是由於大約六十兆個人類細胞的功能衰退所致。

神經或肌肉衰退、記憶力減退或癡呆症狀、血壓上昇、動脈硬化等所謂的老化現象，全都是由於細胞的「老化」所造成的。

老化造成 生活品質下降？



落髮

皺紋

帕金森氏
症

阿茲海默
氏症

視網膜
退化

風濕

心血管
疾病

肝硬化

糖尿病

男性
性功能

女性
性功能

退化性關
節炎

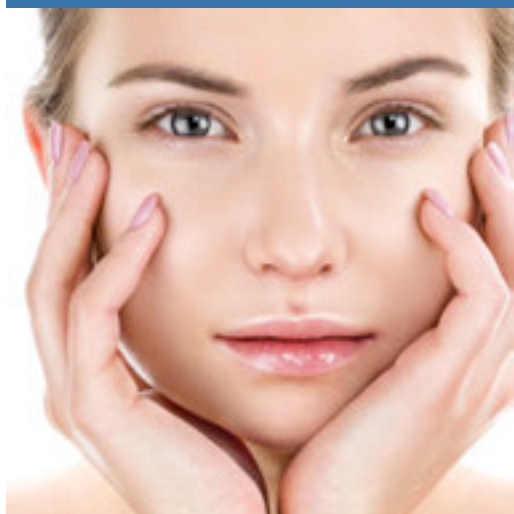
代謝疾病

內分泌
失調

視力退化

睡眠呼吸
中止症

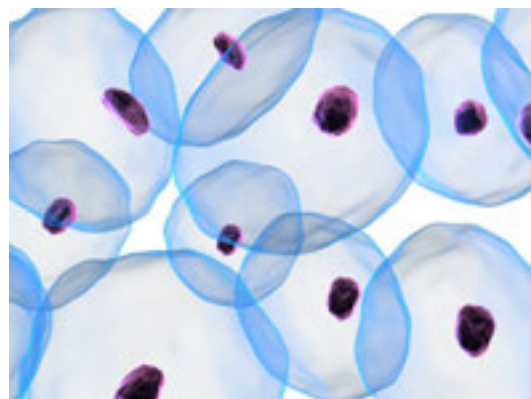




回春奇蹟

脂肪幹細胞

脂肪幹細胞 →

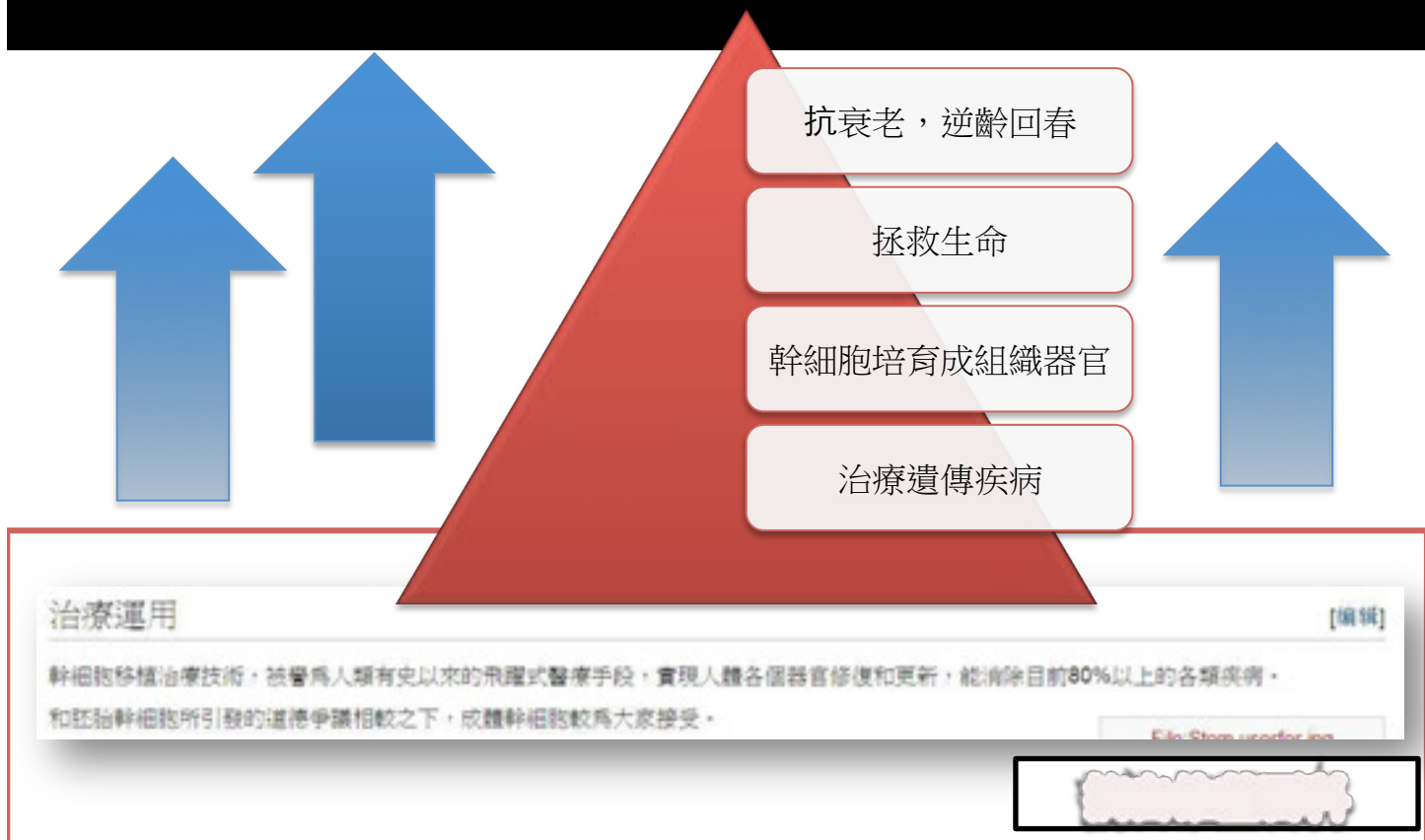


- 科學家在脂肪組織內發現大量的間質幹細胞（**MSC**）特別是在腹部、大腿或臀部。
- 比骨髓所含的幹細胞濃度高出500倍。
- 醫學界認定為**成體幹細胞**（**adult stem cell**）最佳的來源。
- 成年人已無臍帶、臍帶血與乳齒等.....幹細胞的來源，脂肪組織是**成人最好的幹細胞庫**。
- 數量多又沒有排斥問題。
- 純化出幹細胞只需要至少50毫升的脂肪便足夠。

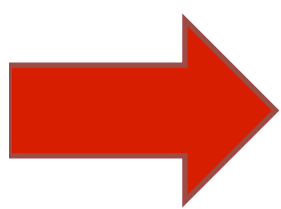




喻為人類史上飛躍式的醫療技術



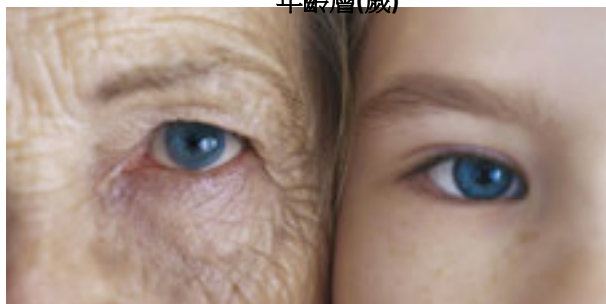
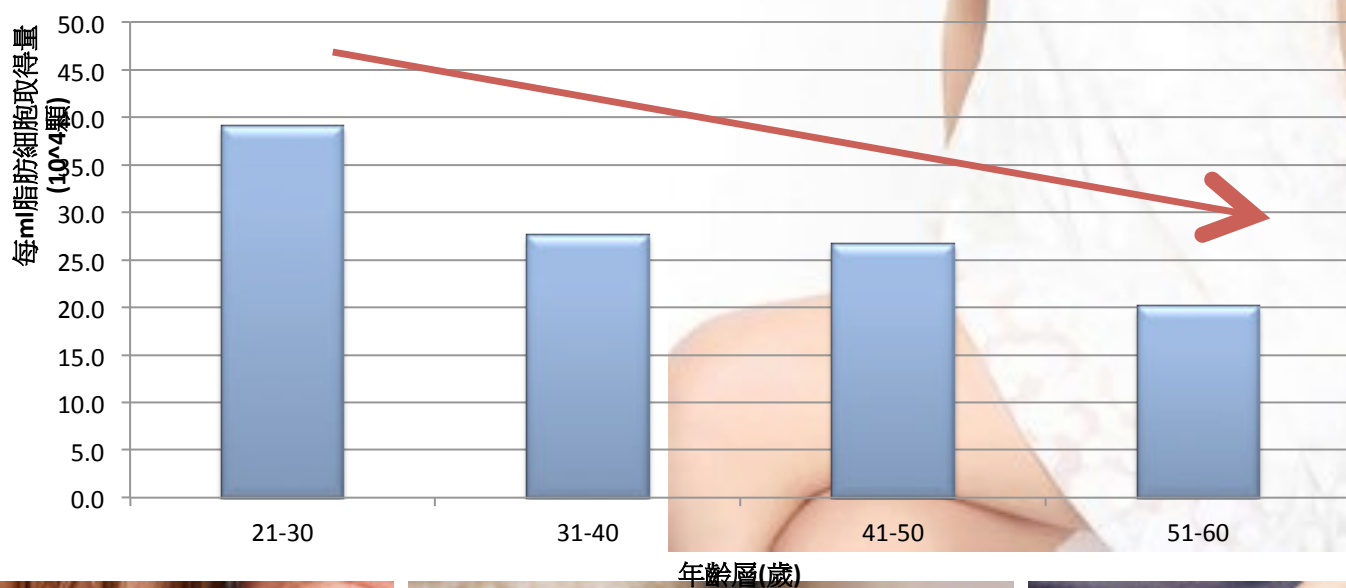
萬能幹細胞回春 越年輕活性 越佳



肌齡永恆持久
即刻凍齡，留住青春
您要選擇永遠的25歲還是45歲？

- 幹細胞的質素及質量會隨着年齡增加而下降

不同年齡層細胞取得量



比同齡人年輕20歲的女星



7 逆齡回春 七步驟

專業諮詢服務

建立客戶資訊及專屬條碼

低壓力局部抽脂

清洗脂肪

分離出幹細胞

幹細胞培養

幹細胞回春



回注前層層把關 幹細胞檢驗報告



客戶細胞產品出貨報告

客戶資料		
客戶姓名		性別 ☐ 男性 ☐ 女性
細胞產品類型		客戶編號
血液篩檢		
檢測項目	B型肝炎表面抗原 (HBsAg)	☐ 陽性 ☐ 陰性
	C型肝炎抗體 (Anti-HCV)	☐ 陽性 ☐ 陰性
	梅毒血清反應 (Syphilis)	☐ 陽性 ☐ 陰性
	人類免疫缺乏病毒抗體 (Anti-HIV 1+2)	☐ 陽性 ☐ 陰性
產品資訊		
檢測項目	結果	
有核細胞總數(TNC)		
檢測項目	規格(放行標準)	結果
無菌試驗	無檢出	
毒素菌試驗	無檢出	
內毒素試驗	< 0.25 EU/mL	
有核細胞活性	> 70 %	

四大法定傳染病檢測

脂肪幹細胞檢測

客戶細胞產品檢驗報告

基本資料				
客戶姓名	文華	性別	☒ 男性 ☐ 女性	
客戶編號	文華	採集日期	文華	報告日期
血液篩檢				
檢測項目	結果			
B型肝炎表面抗原 (HBsAg)	☐ 陽性 ☐ 陰性			
C型肝炎抗體 (Anti-HCV)	☐ 陽性 ☐ 陰性			
梅毒血清反應 (Syphilis)	☐ 陽性 ☐ 陰性			
人類免疫缺乏病毒抗體 (Anti-HIV)	☐ 陽性 ☐ 陰性			
微生物(無菌)試驗				
檢測項目	結果			
菌體菌	文華			
微生物培養	文華			
細胞檢測				
操作項目	結果			
脂肪收集量	文華			
細胞總數*	文華			
凍存量*	文華			
細胞存活率*	文華			
細胞貼附率	文華			
儲存位置	文華			

詳細檢測脂肪幹細胞數量與活性

5

逆齡回春 5大優勢



安全（絕無副作用）

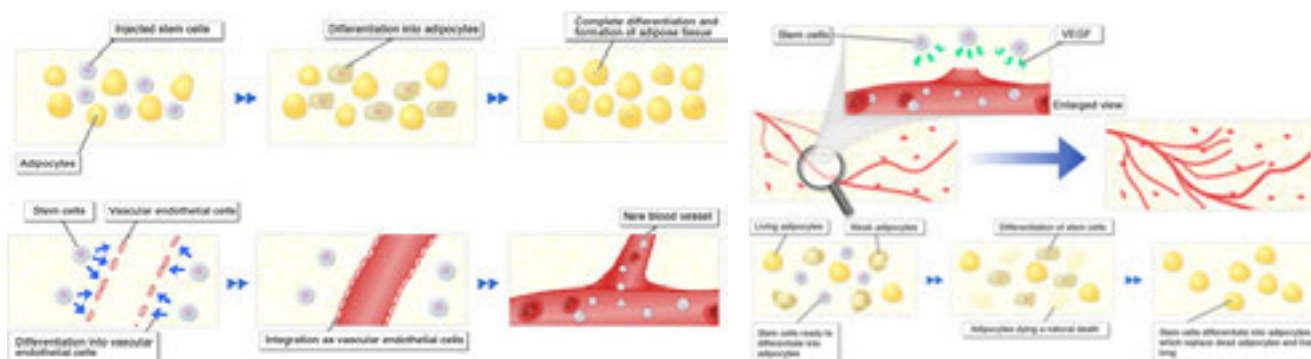


有效（無任何排斥現象）

自然

持久

細胞永久保存





用自己的細胞再生組織或器官治療自身的疾病。因此無須配對，也無排斥的議題。

雖然中高齡者因為幹細胞數量及活性受限，只能考慮使用異體的幹細胞。但因為細胞特性的關係，排斥性遠低於血液幹細胞，因此可行性仍遠高於血液幹細胞。



安全性評估

STEM CELLS AND DEVELOPMENT
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ORIGINAL RESEARCH REPORTS

韓國注射人脂肪幹細胞，在人類以及動物使用上的安全性評估

Safety of Intravenous Infusion of Human Adipose Tissue-Derived Mesenchymal Stem Cells in Animals and Humans

Jiyoung Chan Ra,¹ Il Seob Shin,¹ Sang Han Kim,² Sung Kaun Kang,² Byoung Chae Kang,^{3,4} Hyeon Young Lee,⁵ Yoon Jung Kim,⁶ Jung Yoon Jo,⁷ Eun-Ji Yoon,⁸ Hyung Aul Cho,^{3,4} and Eun Kwon¹

Adipose tissue-derived mesenchymal stem cells (ADMSCs) represent an attractive and ethical cell source for stem cell therapy. With the recent demonstration of MSC homing properties, intravenous applications of MSCs to cell-damaged tissues have been tested. In the present study, the toxicity and immunogenicity of human ADMSCs (hADMSCs) were investigated for clinical application. Culture-expanded hADMSCs showed the typical appearance, immunophenotype, and differentiation capacity of MSCs, and were genetically stable at least 12 passages in culture. Cells suspended in physiological saline maintained their MSC properties in a cold storage condition for at least 3 days. To test the toxicity of hADMSCs, different doses of hADMSCs were injected intravenously into immunodeficient mice, and the mice were observed for 12 weeks. Even at the highest cell dose (2.5×10^6 cells/kg body weight), the B6D mice were viable and had no side effects. A tumorigenicity test was performed in Balb/c nude mice for 26 weeks. Even at the highest cell dose (2×10^6 MSCs/kg), no evidence of tumor development was found. In a human clinical trial, 8 male patients who had suffered a spinal cord injury >12 months previous were intravenously administered autologous hADMSCs (2×10^6 cells) one time. None of the patients developed any serious adverse events related to hADMSC transplantation during the 3-month follow-up. In conclusion, the systemic transplantation of hADMSCs appears to be safe and does not induce tumor development.

總結而言，注射人脂肪幹細胞(hADMSCs)是安全的，不會引起癌症的發生。

安全至上

高規格置備流程



- 符合**GTP (Good Tissue Practice**，人體細胞組織優良操作規範)等級實驗室及管理流程
- 使用高品質的儀器設備及試劑耗材。
- 世界最高標準之操作室設計，單進單出、淨污分道、單人操作，**100%**避免客戶樣品交叉汙染
- **24小時中央監控系統**(包括溫濕度、潔淨度、儲存槽溫度和培養箱溫度)
- 嚴謹的人員管理與訓練。
- 進出及操作記錄管制。
- 專業保全及門禁系統。
- 實驗室內外皆設監視系統。



- 數位庫房管理系統，每個樣本都有自己獨一無二的國際**ISBT128**編碼，油墨和標籤貼紙皆為通過**FDA**認證的抗冷凍防刮特殊材質。



- 操作污染：訓練有素的操作員於獨立無塵操作無菌之細胞潔淨室及**100級**的生物安全櫃內進行，污染率極低，且過程產品處理合乎國際**GMP**要求；由專人處理單一客戶之樣本，並且經過層層確認的關卡，避免樣本的混淆。



- 使用雙層不鏽鋼液態氮儲存槽(**liquid nitrogen dewer**)，採用電腦控制全自動維護與監控。



逆齡回春見證



知名企業主：江小姐

人家說：認真的女人最美麗
但長期的工作壓力，身體老化的現象也比別人快很多。早上起床長會頭昏腦脹，到了下午開會議時就開始思緒不清、記憶力降低。最糟糕的是整張臉也顯得衰老、蠟黃、沒有光采、精神不好。

在打了逆齡回春療法之後，跟朋友出去吃飯，大家都誇我皮膚變的好年輕，好緊緻，氣色也紅潤許多，整張臉看起來像年輕了二十歲，每次照鏡子都讓我更愛我自己的臉。

更不可思議的是，體力也比年輕時更好、思緒更清晰！感謝逆齡回春療法，讓我工作時又重新感覺有活力有奮鬥力，很高興跟大家分享，公司在下個月就要上市了！

除此之外，也有個令我開心不已的事情，長年困擾的老花眼，竟然也不藥而癒，現在看女兒的作業不用再帶老花眼鏡，也不用怕被女兒笑我老了。

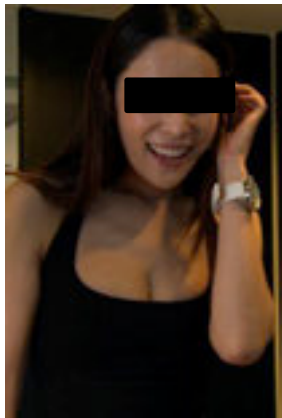
回注前身體狀況：

1. 停經後更年期不適症狀
2. 工作壓力負荷大，屬高壓力族群
3. 皮膚老化

回注3次後身體狀況：

- ✓ 壓力指數下降至原本的1/2（由**15.04** ↓ 為**6.54**）
- ✓ 抗衰老指數提升至原本的5倍（由**1.09** ↑ 為**5.59**）
- ✓ 女性荷爾蒙分泌量提升至原本的9倍多，改善原本更年期之不適，月經再次出現。

逆齡回春見證



科技公司高階主管：王小姐

原本是工作狂的我，到了**40歲**之後，身體狀況開始變差，體力不斷下降、精神不振，對工作完全沒有熱情，業績不斷往下掉。朋友介紹我做逆齡回春療法後，人變得健康又有活力，工作也變得順利了起來，讓我又重拾工作熱情與自信！”

回注前身體狀況：

1. 皮膚乾燥老化、皺紋多
2. 容易倦怠、記憶力減退
3. 工作壓力負荷大、屬高壓力族群

回注3次後身體狀況：

- ✓ 壓力指數降低至原本的**1/7**
- ✓ 女性荷爾蒙分泌量增加**8.6倍**，恢復**28天**自我更新能力，皺紋變少、皮膚不再乾燥、氣色變好。



退休商人：劉先生

“退休後，每天都感到很疲憊，平均睡眠超過**18**個小時，走幾步路就上氣不接下氣，常感到力不從心。接受了逆齡回春療法後，現在身體一點問題也沒有，每天都可以到處遊山玩水，精力像年輕人一樣充沛！”

回注前身體狀況：

1. 自體免疫疾病
2. 癌症
3. 精神萎靡

回注2次後身體狀況：

- ✓ 抗癌指數上升**5%**
- ✓ 壓力指數下降至原本的**1/2**
- ✓ 男性荷爾蒙提升為原本的**1.3倍**

我們都選擇了更好的方式
來幫助自己回春、凍齡！

那你呢??!!

生髮



可促進毛髮生長

Biomedical Research 10 (2) 25-34, 2009

Hair growth stimulated by conditioned medium of adipose-derived stem cells is enhanced by hypoxia: evidence of increased growth factor secretion

Byung-Seon Park¹, Woo-Seok Kim², Joon-Seok Choi³, Hyung-Ki Kim⁴, Jong-Hyun Wito⁵, Fumio Ohtsuka⁶, and Hiroto Furuta⁷

¹London Clinic, Seoul, Korea; ²Department of Dermatology, Kangbuk Samsung Hospital School of Medicine, Sungkyunkwan University, Seoul, Korea; ³Division of Stem Cell Research, Proteomics Research Institute, Seoul, Korea; ⁴Department of Dermatology, Chon College of Medicine, Pusan, Korea; ⁵Department of Plastic and Reconstructive Surgery, Saitama University, Tokyo, Japan; ⁶Department of Oral and Maxillofacial Surgery, Saitama University, Tokyo, Japan; and ⁷YMC Breast Yokohama Medical Clinic for Plastic and Craniofacial Surgery, Yokohama, Japan

(Received 1 August 2009 and accepted 20 November 2009)

Abstract

Adipose-derived stem cells (ADSCs) and their secretomes mediate diverse skin-regeneration effects, such as wound-healing and anti-oxidant protection, that are enhanced by hypoxia. We investigated the hair-growth-promoting effect of conditioned medium (CM) of ADSCs to determine if ADSCs and their secretomes regenerate hair and if hypoxia enhances hair regeneration. If so, we wanted to identify the factors responsible for hypoxia-enhanced hair-regeneration. We found that ADSC-CM administered subcutaneously induced the anagen phase and increased hair regeneration in C57BL/6J mice. In addition, ADSC-CM increased the proliferation of human follicle dermal papilla cells (HFDPs) and human epidermal keratinocytes (HEKs), which are derived from two major cell types present in hair follicles. We investigated the effect of hypoxia on ADSC functions using the same animal model in which hypoxia increased hair regrowth. Forty-one growth factors in ADSC-CM from cells cultured under hypoxic or normoxic conditions were analyzed. The secretion of insulin-like growth factor binding protein (IGFBP)-1, IGFBP-2, macrophage colony-stimulating factor (M-CSF), M-CSF receptor, platelet-derived growth factor receptor-β, and vascular endothelial growth factor was significantly increased by hypoxia, while the secretion of epidermal growth factor production was decreased. It is reasonable to conclude that ADSCs promote hair growth via a paracrine mechanism that is enhanced by hypoxia.

幹細胞條件性培養基(ADSC-CM)會促進毛髮的生長

消除 臉部皺紋



可活化纖維母細胞



脂肪幹細胞的抗皺紋功效：釋放因子以活化纖維母細胞

Antiwrinkle effect of adipose-derived stem cell: Activation of dermal fibroblast by secretory factors

Won-Suk Kim¹, Byung-Seon Park^{2,3,4}, Se-Hyun Park⁵, Hyung-Ki Kim⁶, Jong-Hyun Sung^{7,8}

¹Department of Dermatology, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine, Seoul, Republic of Korea; ²Proteomics Research Institute, Division of Stem Cell Research, Kangbuk Samsung Hospital, Seoul 133-050, Republic of Korea; ³London Clinic, Seoul, Republic of Korea

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Paracrine mechanism
Growth factors
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ABSTRACT

Background: Adipose-derived stem cells (ADSC) have wound-healing and antioxidant effects on human skin via secretion of growth factors and activation of dermal fibroblasts.

Objective: Paracrine mechanism involving adipose-derived stem cell (ADSC) induced wrinkles by ADSC is investigated in this study.

Methods and Results: Wrinkles were induced by an eight-week UVB irradiation, and were significantly improved by the subcutaneous injection of ADSC in hairless mice. In a replica analysis, parameters including wrinkles were improved with high level and high dose of ADSC (1 × 10⁶ and 1 × 10⁷ cells). Growth of the fibroblasts and collagen contents in the dermis also were increased in the ADSC-injected groups. To characterize the paracrine mechanism involving the antiwrinkle effect of ADSC, a conditioned medium of ADSC (ADSC-CM) was directly incubated in human dermal fibroblasts (HDF). ADSC-CM induced the proliferation of HDF, but this was reversed by the pretreatment of ADSC-CM as a dose-dependent manner. In a cell cycle analysis, ADSC-CM decreased the UVB-induced apoptotic cell death, which was demonstrated by the reduced sub-G2 phase of HDF. In addition, the ADSC-CM increased the protein expression of collagen type I and decreased the gene level of matrix metalloproteinase 1 (MMP-1), which may account for the increased collagen contents in the dermis.

Conclusions: Collectively, these results indicate that the ADSC and its secretory factors are effective for UVB-induced wrinkles, and the paracrine effect is mainly mediated by releasing ADSC-induced growth factors and stimulating collagen synthesis of HDF.

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腦部疾病 帕金森氏症



美國FDA臨床試驗第II期 - 間質幹細胞移植以治療帕金森氏症患者

Mesenchymal Stem Cells Transplantation to Patients With Parkinson's Disease

This study is currently recruiting participants.

Verified on October 2011 by Guangzhou General Hospital of Guangzhou Military Command

First Received on October 4, 2011. No Changes Posted

Sponsor:	Guangzhou General Hospital of Guangzhou Military Command
Information provided by:	Guangzhou General Hospital of Guangzhou Military Command
ClinicalTrials.gov Identifier:	NCT01446654

► Purpose

The study is a phase I/II trial designed to establish the safety and efficacy of intravenous administration of autologous bone marrow derived mesenchymal stem cells to patients with Parkinson's disease.

本研究為臨床試驗第II期 - 設計是建立安全有效的幹細胞移植治療帕金森氏症患者。

Condition	Intervention	Phase
Parkinson's Disease	Biological: bone marrow derived mesenchymal stem cells	Phase I Phase II

腦部疾病 阿茲海默氏症



美國FDA臨床試驗第II期 - 間質幹細胞移植以治療阿茲海默氏症的安全性和效用評估

The Safety and The Efficacy Evaluation of NEURONSTEM-AD in Patients With Alzheimer's Disease

This study is currently recruiting participants. Verified on February 2011 by Mediplex Co Ltd.

First Received on February 11, 2011. Last updated on February 15, 2011. History of Changes

Sponsor:	Mediplex Co Ltd.
Information provided by:	Mediplex Co Ltd.
ClinicalTrials.gov Identifier:	NCT01297218

► Purpose

The primary purpose of this study is to evaluate the safety and the tolerability of NEURONSTEM-AD (Human Umbilical Cord Blood-Derived Mesenchymal Stem Cells) and to assess the maximum tolerated dose (MTD). This study is also to investigate the efficacy of this study drug in patients with dementia of Alzheimer's type.

本研究的目的是評估幹細胞的安全性及耐受度，以得到最大耐受劑量，並且探討這項治療對阿茲海默氏症療效的功用。

Condition	Intervention	Phase
Alzheimer's Disease	Biological: Human Umbilical Cord Blood-Derived Mesenchymal Stem Cells	Phase I

退化視網膜



Stem Cell Res and Rep (2011) 7:404–447
DOI 10.1007/s12151-010-9125-8

Stem Cell-Based Therapeutic Applications in Retinal Degenerative Diseases

Yanling Huang · Volker Kriemann · Suzanne T. Babel

以幹細胞為基礎治療視網膜退化疾病

Published online: 22 September 2010
© Springer Science+Business Media, LLC 2010

Abstract Retinal degenerative diseases that target photoreceptors or the adjacent retinal pigment epithelium (RPE) affect millions of people worldwide. Retinal degeneration (RD) is found in many different forms of retinal diseases including retinitis pigmentosa (RP), age-related macular degeneration (AMD), diabetic retinopathy, cataracts, and glaucoma. Effective treatment for retinal degeneration has been widely investigated. Gene replacement therapy has been shown to improve visual function in inherited retinal diseases. However, this treatment was less effective with advanced disease. Stem cell-based therapy is being pursued as a potential alternative approach in the treatment of retinal degenerative diseases. In this review, we will focus on stem cell-based therapies in the pipeline and summarize progress in treatment of retinal degenerative diseases.

Keywords Retinal degeneration · Stem cells · Regeneration

RPE Retinal pigment epithelium
IPS Induced pluripotent stem cells
LCA Leber congenital amaurosis
MSC Mesenchymal stem cells
RD Retinal degeneration
RP Retinitis pigmentosa
RPE Retinal pigment epithelium
RPE Retinal pigment epithelium
SC Stem cells
VSEL Very small embryonic-like stem cells

幹細胞療法對於治療視網膜退化疾病具有潛力。

The field of stem cell-based therapy holds great potential for the treatment of retinal degenerative (RD) diseases. Many studies in animal models suggest that stem cells have

脊髓損傷



美國FDA臨床試驗IV期，開展幹細胞移植以治療脊髓損傷患者

Mesenchymal Stem Cells Transplantation to Patients With Spinal Cord Injury (MSC)

This study is currently recruiting participants.

Verified on October 2011 by Guangzhou General Hospital of Guangzhou Military Command

First Received on October 3, 2011 Last Updated on October 4, 2011 History of Changes

Sponsor	Guangzhou General Hospital of Guangzhou Military Command
Information provided by	Guangzhou General Hospital of Guangzhou Military Command
ClinicalTrials.gov Identifier	NCT01446640

Purpose

The study is a phase I/II trial designed to establish the safety and efficacy of intravenous combined with intrathecal administration of allogeneic bone marrow derived mesenchymal stem cells to patients with spinal cord injury.

本研究是國際第IV期的研究，用以評估幹細胞配合骨髓注射的方式給予骨髓幹細胞對脊髓損傷患者的安全性及效用。

Coincidence	Intervention	Phase
Spinal Cord Injury	Biological bone marrow derived mesenchymal stem cells	Phase I Phase II

心肌梗塞

Review article: Current opinion | Published: 23 May 2011, doi:10.1038/nrn.2011.212009
Cite this article: Nature Med 2011; 17:1441–1449

Cardiac repair with allogeneic mesenchymal stem cells after myocardial infarction

Gioacchino Roselli^{1,2} · Enrico Muscarelli¹

¹Cardiologia Cardiovascolare, Torino, Italy; ²Cardiologia
Department of Cardiology, CHA, Lugano, Switzerland

以異體間充質幹細胞進行心肌梗塞後的心臟修復

過去10年的第11期國際研究，已充分證實幹細胞治療心肌梗塞的效用及安全。

Summary

Over the past decade, use of allogeneic bone marrow-derived stem cells (BMSCs) in the treatment of myocardial infarction (MI) has been the subject of numerous clinical studies. In patients with myocardial infarction (MI), stem cells can be used to replace dead or dying myocardium and improve cardiac function. In cell-based therapy, BMSCs have been shown to improve cardiac function in animal models. However, recent data suggest that allogeneic BMSCs may exert adverse effects in vivo in terms of EIA, class II, present antigens and induce immune response. Allogeneic BMSCs, unlike syngeneic ones, were obtained from old hearts by 3 weeks, with a loss of functional benefit. Allogeneic BMSCs have also been tested in animal clinical studies in cardiologic patients. Intravenous allogeneic BMSCs have been proven to be safe in a phase I trial in patients with acute MI. Endothelial-derived allogeneic BMSCs appear to have been associated with reduced adverse cardiac events in a phase II trial in patients with chronic heart failure. The long-term safety and efficacy of allogeneic BMSCs in the clinical setting remain to be established. Ongoing phase II trials are addressing these issues.

Key words myocardial infarction, mesenchymal stem cells, allogeneic, immunogenicity, cardiac regeneration

Introduction

Existing evidence suggests that the adult myocardium has

limited capacity to regenerate after myocardial infarction (MI) results in a massive loss of cardiomyocytes and scar formation. Hence, allogeneic mesenchymal stem cells appear to be insufficient to replace the large number of cardiomyocytes that are lost after MI. Current heart failure (CHF) therapies focus on many patients. Recent advances in pharmacological agents, coronary revascularization and implantable devices have succeeded in alleviating clinical symptoms, prolonging survival and slowing down the progression of CHF. However, they have failed to fully prevent CHF. As a loss of cardiomyocytes is primarily responsible for the development of CHF, the generation of new functional cardiomyocytes remains the ultimate goal for preventing cardiac failure.

Ten years ago, a seminal report claimed that adult stem cells from marrow-derived stem cells trans-differentiated into cardiomyocytes to regenerate infarcted myocardium in vivo [1]. This report sparked a worldwide enthusiasm in the scientific community, leading to the extremely rapid initiation of clinical studies of bone marrow cell (BMC)-based therapies for cardiac repair [2, 3]. Mesenchymal stem cell (MSC)-based differentiation of bone marrow cells was not confirmed by subsequent studies from other laboratories [4–7], questioning the very rationale for the initiation of these clinical studies. The first phase I study of BMC-based therapy for ischemic heart disease [8] was published only 2 years after the initial experimental report on cardiomyocyte trans-differentiation of BMCs [1]. Several other phase I/II clinical studies were published in the next few years. Most of these studies adopted a “blinded” strategy using allogeneic undifferentiated mesenchymal BMSCs, rather than selected cell components within the bone marrow (BM) population. A few days after acute MI and percutaneous revascularization of the infarcted coronary artery, bone marrow was taken from the patient, and mesenchymal BMSCs were prepared in the laboratory and immediately infused into the infarcted vessel using a percutaneous or in-vivo delivery catheter. Allogeneic BMSC-based cell therapies for cardiac repair have proven to be safe in randomized controlled trials [9–12]. In agreement with these studies, our own data from the phase I trial cell

肝臟衰竭



Therapeutic potential of adipose tissue-derived stem cells for liver failure according to the transplantation routes

脂肪幹細胞治療肝臟衰竭潛力與注射途徑的關係

Say-June Kim, Ki Cheol Park¹, Jung Uee Lee², Kwun-Ju Kim, Dong-Goo Kim³

Department of Surgery, ¹Clinical Research Institute, ²Department of Pathology, Daegu St. Mary's Hospital, The Catholic University of Korea School of Medicine, Daegu; ³Department of Surgery, Seoul St. Mary's Hospital, The Catholic University of Korea School of Medicine, Seoul, Korea

Purpose Even though adipose tissue-derived stem cells (ADSCs) have been spotlighted as a possible alternative for liver transplantation in an experimental setting, the mechanism by which ADSCs improve liver dysfunction remains poorly characterized. The objective of this study was to evaluate the therapeutic ability of undifferentiated ADSCs, and find a liver that on how ADSCs alleviate liver damage by comparing the transplantation routes. **Methods** In vivo generated human ADSCs were checked for surface markers and stage-specific genes for characterization. Afterwards, they were transplanted into C57BL/6 mice with CCl₄-induced liver injury. The transplantations were made via tail vein, portal vein, and direct liver parenchymal injection. At 1 and 3 post-transplantation days, serum biochemical parameters and/or liver specimens were evaluated. **Results** We have shown here that ADSCs have the characteristics of mesenchymal stem cells, and belong to endodermal and/or early hepatic differentiation stage. After transplantation into the mice with acute liver failure, markers of liver injury such as alanine aminotransferase, aspartate aminotransferase, as well as ammonia, decreased. Of these transplantation routes, transplantation via tail vein rendered the most prominent reduction in the biochemical parameters. **Conclusion** Undifferentiated ADSCs have the ability to improve hepatic function in mice with acute liver injury. Moreover, our transplantation route study supports the theory that ADSCs in systemic circulation can exert endocrine or paracrine effects to attenuate the injured liver.

Key Words Adipose tissue-derived stem cell, Mesenchymal stem cells, Acute liver injury, Stem cell transplantation

經由注射進入循環系統的脂肪幹細胞可藉由內分泌或旁分泌的效應以改善受損肝臟。

代謝疾病

Review Article

代謝疾病・脂肪代謝障礙和老化可能與間充質幹細胞的缺乏有關

Could Metabolic Syndrome, Lipodystrophy, and Aging Be Mesenchymal Stem Cell Exhaustion Syndromes?

Eduardo Mansilla,¹ Vanina Diaz Aquino,¹ Daniel Zambón,² Gustavo Horacio Marín,³ Karina Martínez,⁴ Gustavo Roque,⁵ Thomas Ichim,⁶ Neil H. Riedman,⁷ Amit Patel,⁸ Flavio Stürler,⁹ Gustavo Larsen,^{6,7} Rubén Spreitz,^{6,7} Luis Núñez,^{6,8} Carlos Soratti,¹⁰ Ricardo Ibar,¹⁰ Michiel van Leeuwen,¹⁰ José María Teso,¹ Hugo Drago,¹ and Alberto Maccioni¹

¹ Tissue Engineering, Regenerative Medicine and Cell Therapy Laboratory, CECOSMA, Ministry of Health, Province of Buenos Aires, 1080 La Plata, Argentina

² Lipid Clinic, Division of Endocrinology, Hospital Clinic, 08036 Barcelona, Spain

³ Division of Endocrinology, Regenerative Stem Cells, Medivest Inc., San Diego, CA 92122, USA

⁴ Division of Cardiovascular Surgery, University of Utah, Salt Lake City, UT 84143, USA

⁵ Division of Metabolic Diseases, Regenerative Stem Cells, Medivest Inc., San Diego, CA 92122, USA

⁶ ENX Chemotherapy, Division of Hematology, Lincoln, NE 68521, USA

⁷ Bio-Target, Division of Hematology, NE 68521, USA

⁸ The University of Chicago, Division of Hematology, Chicago, IL 60637, USA

⁹ Novartis Inc., Division of Hematology, Chicago, IL 60628-2731, USA

¹⁰ INECULAC, Presidency, Ministry of Health, 2250 CH400AJ Buenos Aires, Argentina

¹¹ Vrije Universiteit, Bureau Division, 1080 HV Amsterdam, The Netherlands

Correspondence should be addressed to Eduardo Mansilla, emansilla@cecosma.com.ar

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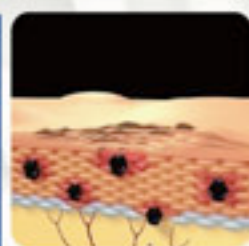
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本論文討論了代謝綜合症、脂肪代謝障礙和老化可能與間充質幹細胞的缺乏有關

One of the most important and complex diseases of modern society is metabolic syndrome. This syndrome has not been completely understood, and therefore an effective treatment is not available yet. We propose a possible stem cell mechanism involved in the development of metabolic syndrome. This way of thinking lets us consider also other significant pathologies that could have similar etiopathogenic pathways, like lipodystrophy, endocrinopathy, and aging. All these clinical situations could be the consequence of a progressive and persistent stem cell exhaustion syndrome (SCES). The main outcome of this SCES would be an irreversible loss of the effective regenerative mesenchymal stem cells (MSCs) pools. In this way, the normal regenerative capacity of the organism could become insufficient. Our point of view could open the possibility for a new strategy of treatment in metabolic syndrome.

自體免疫疾病 紅斑性狼瘡



Lymphocyte Depletion and Stem Cell Transplantation to Treat Severe Systemic Lupus Erythematosus

This study is ongoing, but not recruiting participants.

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本研究旨在評估紅斑性狼瘡重症的幹細胞移植療法

Purpose

This study will evaluate a new approach to treating severe systemic lupus erythematosus (SLE) that involves depleting stem cells and then reconstituting the bone marrow with donor stem cells. The goal is to reduce the autoimmune response and thus giving back the patient's own cells. SLE is a chronic, inflammatory disorder of the immune system that can affect many organs. It is called an autoimmune disease because the patient's lymphocytes (white blood cells that normally protect against invading organisms) go out of control and attack the body's own tissues.

Patients between 18 and 40 years of age with severe SLE, affecting a major organ that is resistant to standard treatment may be eligible for this study. Candidates are screened with a medical history and physical examination, blood and urine tests, skin biopsy, and radiology studies to evaluate the extent of disease. They have endocrinology, nutrition, dental, and social work consultations, ultrasound or MRI scan, heart imaging, echocardiogram and lung function tests, bone marrow biopsy, and lymph node biopsy. Depending on which organs are affected, patients may have additional tests, such as lumbar puncture (spinal tap), kidney or lung biopsy, MRI of the brain and spinal cord, and PET scan. They also complete quality of life questionnaires and have disability, functional status and neurocognitive (thinking) assessments.

Participants have a control cancer-free (donor) blood sample taken into a tube, or other tube for administering stem cells and medicines and for drawing blood. They undergo apheresis procedure during the course of the study to collect stem cells for transplant and the research. For apheresis, white blood cells are collected through a needle in an arm vein and placed in a cell-separating machine where the white cells are retained and the rest of the blood is returned to the patient through the same needle.

抗衰老 回春



移植胎鼠間充質幹細胞的抗衰老作用

Anti-aging effect of transplantation of mouse fetus-derived mesenchymal stem cells

Li Jin, ZHANG Yues, LU Ge-Xin

Institute of Hematology, Medical School, Jinan University, Guangzhou 510632, China

Abstract: To determine the role of allogeneic graft of mesenchymal stem cells in maintaining longevity, mesenchymal stem cells were isolated from BALB/c mouse embryo-sacculus delivery fetus by two successive density gradient centrifugations, and then were purified and amplified by adherent culture. Identified P1 mesenchymal stem cells were injected (1×10^5) through vena caudalis into the 12-month-old female BALB/c mice three times. The mice were evaluated with ultrasonocardiogram, histology, score of cardiac, skin, lung, kidney, colon histopathology and serum total superoxide dismutase activity, malic dialdehyde content, glutathione peroxidase activity. The results showed that after transplantation, the long-term surviving stem cells were found to be located in many organs with its site Y-chromosomal hybridization typing. Median life span was increased in these animals after transplantation. Thus, cardiac, lung, kidney and colon pathology development were delayed. The retrogradation of heart function was attenuated, the increase of heart mass index (the mass of heart/the mass of the body), and serum malic dialdehyde content, the decrease of spleen mass index (the mass of spleen/the mass of the body), serum total superoxide dismutase activity and glutathione peroxidase activity were reduced three months after transplantation (all $P < 0.05$). These results support the idea that longevity can be enhanced by transplantation of mesenchymal stem cells and enhance the hypothesis of mesenchymal stem cell as autologous.

Key words: mouse fetus, stem cell, transplantation, anti-aging

本文顯示移植胎鼠幹細胞可延長壽命，並增強幹細胞提供老化功能的回復力。

睡眠疾病 呼吸中止症



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Short communication

Mesenchymal stem cells reduce inflammation in a rat model of obstructive sleep apnea

Alba Carreras^{a,b}, Isaac Alameddros^b, Josep M. Montserrat^{a,b}, Daniel Navajas^{a,b,c}, Ramon Farré^{a,b,c}

^a Centre de Diagnòstic i Teràpia Respiratòria, Hospital de Bellvitge, Universitat de Barcelona, 08035, Barcelona, Spain

^b Centre de Diagnòstic i Teràpia Respiratòria, Bellvitge, Spain

^c Centre de Diagnòstic i Teràpia Respiratòria, Hospital de Bellvitge, Universitat de Barcelona, Spain

^d Institut de Diagnòstic i Teràpia Respiratòria, Hospital de Bellvitge, Universitat de Barcelona, Spain

間充質幹細胞減少阻塞性睡眠呼吸中止症所導致的發炎反應

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ABSTRACT

The aim was to test the hypothesis that mesenchymal stem cells (MSC) could reduce the inflammation induced by recurrent airway occlusions in an animal model of obstructive sleep apnea (OSA). A total of 12 male rats was divided into two groups. Ten rats were subjected to a pattern of recurrent obstructive apneas mimicking OSA (100%, lasting 15 s each) for 14 days. Two rats (1×10^6 cells) were intravenously injected into the tail vein of these rats. Ten rats not subjected to apneas or MSC injection were used as controls. The rat blood serum concentrations of pro-inflammatory cytokines IL-1 β , IL-6, IL-17 were measured by ELISA. IL-1 β was significantly greater in the rats subjected to recurrent apneas (26.7 ± 4.1 pg/ml), as a MSC than in controls (13.9 ± 1.0 pg/ml, $p < 0.05$). In the group of apnea rats subjected to MSC injection, IL-1 β was significantly reduced (3.1 ± 1.0 pg/ml, $p < 0.05$). In conclusion, MSC triggered an early anti-inflammatory response in rats subjected to recurrent obstructive apneas, suggesting that these stem cells could play a role in the physiological response to counterbalance inflammation in OSA.

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