

粒線體再生抗老醫療 技術先驅

台灣粒線體
應用技術股份有限公司

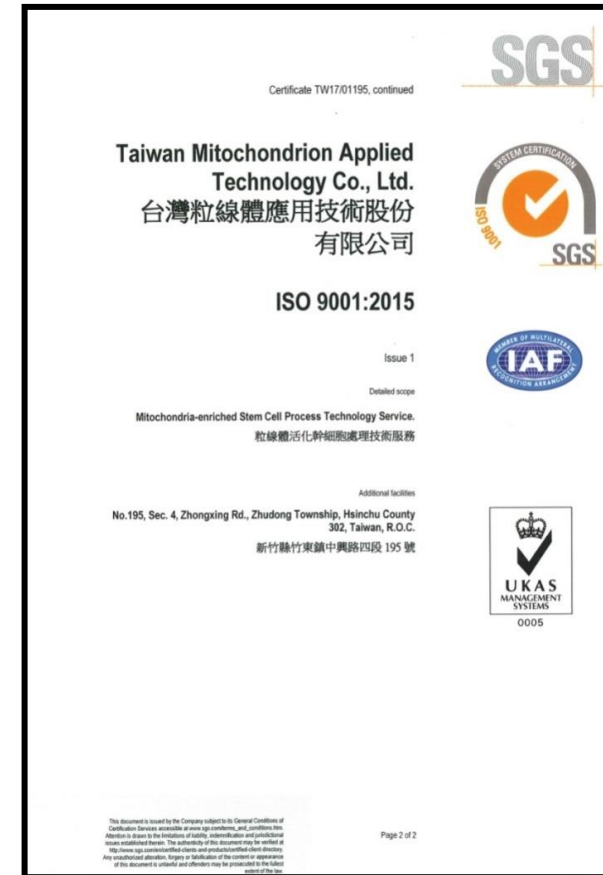


粒線體評價分析與活化國際認證證書

粒線體功能分析測試實驗室 TAF認證



粒線體活化幹細胞處理技術 ISO認證



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STARTUPS IN APAC - 2021

Taiwan Mitochondrion Applied Technology Co., Ltd. (Taimito)

Rebuilding Mitochondria to Rejuvenate the Powerhouse of Cells

According to hundreds of years of research, mitochondria provide cellular energy and orchestrate physiological functions, which are one of the key factors in the aging process. Mitochondrial dysfunction is closely associated with aging and degenerative diseases such as Parkinson's disease, Sarcopenia, Osteoarthritis, Heart disease and Alzheimer's disease, and more. This is because impaired mitochondria are insufficient to supply energy, regulate cellular physiological function, and even induce cells to enter apoptosis or autophagy, leading to disease. Recently, scientists found that transplantation of healthy mitochondria can lead to the sustained restoration of mitochondrial function in a damaged cell.

Currently, mitochondrial transplantation has been regarded as a new therapeutic technique for regenerative medicine. Not long ago, Harvard University and Boston Children's Hospital have conducted clinical trials that have proven that mitochondria derived from skeletal muscle successfully restored certain heart functions in infants with congenital heart disease. However, the development of a robust mitochondria production protocol is a critical issue that needs to be addressed prior to any widespread clinical application of mitochondrial transplantation.

Since mitochondrial transfer by stem cells has been demonstrated to play a significant role in rescuing injured cells and tissues. Mitochondria transfer from mesenchymal stem cells (MSCs) to damaged cells aroused great interest in the field of regenerative medicine. MSCs are an attractive source for mitochondria isolation due to their non- or low immunogenicity and ability to proliferate well in vitro.

As an emerging leader in the worldwide development of regenerative medicine on mitochondrial technology, Taimito has established a complete extraction, purification, preservation, and delivery process for mitochondria. The company provides new solutions for rejuvenation and disease treatment by Mitochondrial Reconstruction Technology (MRT) which is the most innovative technology and can directly rebuild the mitochondria function of the cell. "We believe that mitochondria are the key factor for rejuvenation and disease treatment, which is why we not



only built the MRT platform but also provide high-quality mitochondria biologic products," says Dr. Han-Chung Cheng, founder, Taimito.

Mitochondria biologics (Mitobio) based on MRT platform was shown to advance the cell energy metabolism by means of mitochondria reconstruction and replacement. To that end, the company's Mitobio, an application in organelle-based regenerative medicine, is focused on developing mitochondrial biologics for lung injury, neurodegenerative diseases, and anti-aging. "We are the very first team in the world to develop mitochondrial biologics and big data analysis of bioenergetics health index," says Dr. Cheng.

Mitobio is a stem cell-derived mitochondria isolated from Mitocell which are specialized stem cells. Mitocell are identified and characterized high-quality MSCs through mitochondrial function screening and mitochondrial enhancement techniques and found that the presence of high-quality mitochondria of stem cells has better therapeutic effects. In fact, Dr. Cheng highlights the instance of reduction in Parkinson's disease symptoms such as tremor, muscle stiffness, trouble in movement after receiving mitochondria therapy, Mitobio. "We found Mitobio can quickly and effectively improve the symptoms of Parkinson's disease," says Dr. Cheng. In another example, a patient suffered a severe lung injury, and Taimito provided Mitocell with excellent mitochondrial function for a speedy recovery. Soon after the injection, the lungs began to recover gradually, and the patient was saved. "Our MRT platform, mitochondria biologics, and mitochondria-related cell therapy products can help clients overcome their challenges in the biotech area," says Dr. Cheng.

Since 2014, Taimito has been focusing on the application and development of MRT platform. MRT platform is a unique technology platform in the world, backed by 17+ international patents. This platform has various strategies and applications for anti-aging. Taimito's goal is to, with a laser focus on mitochondria-based value chain development, reduce high healthcare costs for various countries across Asia on a long-term basis. [5]



Taiwan Mitochondrion
Applied Technology Co., Ltd.
(Taimito)

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美國發明專利
US 10,493,105 B2中國發明專利
專利號: ZL 2015 8 0043621.0台灣發明專利
發明第I 707040

US10493105B2

(12) United States Patent
Lin et al.

(10) Patent No.: US 10,493,105 B2
(45) Date of Patent: Dec. 3, 2019

(54) ISOLATED ADIPOSE-DERIVED MESENCHYMAL STEM CELLS TREATED WITH ANGELICA EXTRACT OR BUTYLIDENEPLITHALIDE, AND WHEREIN THE CELLS HAVE AN INCREASED MITOCHONDRIAL MEMBRANE POTENTIAL AND A DECREASED LEVEL OF IL-8, AND METHODS FOR TREATING PARKINSON'S DISEASE

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 15/857,270

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Related U.S. Application Data
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A61K 48/00 (2006.01)
A01N 63/00 (2006.01)
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A61P 25/16 (2006.01)
A61K 38/18 (2006.01)
A01K 67/027 (2006.01)
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(52) U.S. Cl.
CPC A61K 35/28 (2013.01); A01K 67/027 (2013.01); A61K 90019 (2013.01); A61K 90085 (2013.01); A61K 38/185 (2013.01); A61P 25/16 (2013.01); C07K 14/575 (2013.01); C12N 5/0667 (2013.01); A61K 35/33 (2013.01); A61K 35/50 (2013.01); A61K 36/232 (2013.01); C12N 2500/16 (2013.01); C12N 2500/39 (2013.01); C12N 2500/36 (2013.01); C12N 2500/76 (2013.01); C12N 2501/11 (2013.01); C12N 2501/999 (2013.01); C12N 2506/13 (2013.01); C12N 2506/1369 (2013.01)

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CPC C12N 2502/30; C12N 2503/02; C12N 5/0018; C12N 5/0606; C12N 5/0667; C12N 2506/1369; C12N 2500/30; C12N 2502/137; C12N 2506/13; C12N 5/064; C12N 5/0665; C12N 5/00; C12N 5/0031; C12N 5/0099; C12N 5/2501; C12N 5/2308; C12N 5/0653; C12N 5/0668; C12N 5/0662; C12N 6/0069; A61K 38/00; A61K 45/06; A61K 35/00; A61K 35/12; A61K 35/28; A61K 900085; A61K 35/33; A61K 35/51; A61K 35/545; A61K 35/185; A61K 2300/00; A61K 35/50; G01N 2510/00; G01N 38/6896; G01N 2333/70589; G01N 33/5005; G01N 33/4833; A61P 25/00; A61P 25/16; A61P 9/10; C12Q 2600/158

See application file for complete search history.

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Primary Examiner — Chang-Yu Wang
(74) Attorney, Agent, or Firm — Muncy, Geissler, Olds & Lowe, P.C.

ABSTRACT
(57)
A cell for treating neurodegenerative disease treated with angelica extract is provided. The pharmaceutical composition comprises the cell for treating neurodegenerative disease and can significantly increase and recover the number of dopaminergic neurons to achieve the goal for treating neurodegenerative disease.

10 Claims, 12 Drawing Sheets

证书号第 4210357 号

发明专利证书

发明名称: 用线粒体特化细胞治疗神经退行性疾病的医药组合物

发明人: 林欣荣; 韩鸿志; 刘诗平; 郑汉中; 涂启堂

专利号: ZL 2015 8 0043621.0

专利申请日: 2015 年 09 月 11 日

专利权人: 台湾粒线体应用技术股份有限公司

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授权公告日: 2021 年 01 月 19 日 授权公告号: CN 106795490 B

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局长 申长雨

第 1 页 (共 2 页)

中華民國專利證書

發明第 I 707040 號

發明名稱: 一種用於治療退化性神經疾病的細胞、含有該細胞的醫藥組合物及其應用

專利權人: 台灣粒線體應用技術股份有限公司

發明人: 林欣榮、韓鴻志、劉詩平、鄭漢中、涂啟堂

專利權期間: 自 2020 年 10 月 11 日至 2035 年 9 月 10 日止

上開發明業經專利權人依專利法之規定取得專利權

經濟部智慧財產局局長 洪淑敏

中華民國 109 年 10 月 11 日

注意: 專利權人未依法繳納年費者, 其專利權自應繳納期限屆滿後消滅。

幹細胞及製程專利

名稱	證號	地區
用线粒体特化细胞治疗神经退化性疾病的医药组合物	PCT/CN2015/089402	PCT
	4210357	大陸
Isolated adipose-derived mesenchymal stem cells treated with angelica extract or butylidenephthalide, and wherein the cells have an increased mitochondrial membrane potential and a decreased level of IL-8, and methods for treating parkinson's disease	US10493105B2	美國
一種用於治療退化性神經疾病的細胞、含有該細胞的醫藥組合物及其應用	I707040	台灣
培養液組合物及其用於提升粒線體功能之用途	202010548635.0	大陸
	108118239	台灣
無血清培養液以及使用此無血清培養液分離和放大培養幹細胞方法	4628749	大陸
	I715874	台灣

粒線體專利

名稱	證號	地區
新穎性醫藥組合物於修復視網膜損傷與治療視網膜病變之用途	I759739	台灣
粒線體用於製備治療阿茲海默症之醫藥組合物的用途	I706780	台灣
用於治療多發性系統退化症之醫藥組合物	I706781	台灣
以外源性粒線體為有效成份之組合物、其用途及修復細胞之方法	I672147	台灣
自細胞提取胞器的方法	I583432	台灣
新穎性醫藥組合物及其於修復肝臟損傷、治療肝臟損傷相關疾病與提升肝臟功能之用途	109115466	台灣
含有粒線體的組合物及其修復軟骨損傷或改善退化性關節炎的用途	110109873	台灣
促進毛髮再生的組合物、富粒線體血漿、其製造方法及其用途	110109872	台灣
粒線體用於治療及/或預防肌腱受損或其相關疾病之用途	110109767	台灣
粒線體用於治療或/及預防腎臟損傷相關疾病之用途	110109766	台灣
粒線體用於促進傷口修復及/或傷口癒合之用途	110109765	台灣

Thank You

May The Mitochondria
Be With You

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