Shih-Chieh Hung, M.D., Ph.D.

Address:

Institute of New Drug Development,
China Medical University, Taichung
7F, No. 6, Xueshi Rd., North Dist., Taichung City 404, Taiwan
TEL: +886-422052121 #7728
FAX: +886-422333922

Professional Position:

2019~present : Director, Drug Development Center, China Mdical University (深耕計畫特色領域中心：新藥開發研究中心主任)

2016~present: Distingushed Professor, Institute of New Drug Development, China Medical University; Director, Integrative Stem Cell Center, China Medical University Hospital, Taichung, Taiwan

2007-2016: Professor, Institute of Clinical Medicine, School of Medicine, National Yang-Ming University, Taipei, Taiwan

2009-2015: Director, Management Center for Medical Science-Technical Building; 2001~2015, Investigator, Stem Cell Laboratory, Dept. of Medical Research; Attending Physician, Orthopaedics, Taipei Veterans General Hospital, Taipei, Taiwan

2013~presnt: Adjunct Research Fellow, Institute of Biomedical Sciences, Academia Sinica

2004~2005: Senior Research Scientist, Center for Gene Therapy, Tulane University Health Science Center: Prof. Prockop-DJ

1996~1997: Postdoctoral Fellowship: Department of Biochemistry, The University of Tokyo

1993~1997: Research Fellowship: Department of Orthopaedics, Faculty of Medicine, The University of Tokyo

1992~2000: Residency, Department of Orthopaedics and Traumatology, Taipei Veterans General Hospital

1990~1992: Residency, Surgical Department, Fan-Lin Veterans Hospital, Hwa-Ling, Taiwan

Education:

1990: M.D. National Yang-Ming University

1997: Ph.D. The University of Tokyo

Committee Appointments:

Advisory Committee for Bio Taiwan Committee (BTC), Executive Yuan, 2019~present

中央研究院生命科學聘任資格審查委員會委員, 2015~2019

Co-Chair, the 2017 International Conference of Developmental Biology, Stem Cells and Regenerative Medicine - from Basic Research to Applications

Co-Chair, the 2016 Tissue Engineering and Regenerative Medicine International Society- Asia Pacific Meeting (TERMIS-AP 2016), Sep. 3-6, 2016

醫工學門共同召集人，Ministry of Science and Technology(科技部), 2014.

Peer Review Committee, National Science Council, Division of Life Science 2000~present
Advisory Committee for the Orthopaedic Program in the Division of Life Science, National Science Council 2004~present
Advisory Committee for the Stem Cells/Regenerative Medicine Program in the Division of Life Science, National Science Council 2007~present
Advisory Committee, Institute of Cell Biology and Anatomy, National Ynag-Ming University, 2006, 2007.
Member of Directorate, Taiwan Association for Cell Therapy (TACT) 2014~present
Member of Directorate, the Taiwan Orthopedic Research Society (TORS) 2014~present
Member of Directorate, the Taiwan Society for Stem Cell Research (TSSCR) 2014~present
理事長, 台灣再生醫學會 (the Formosan Association of Regenerative Medicine) 2016~present
Advisory Committee, Institute of Cell Biology and Anatomy, National Ynag-Ming University 2006~present
Committee member, 經濟部 SBIR 2006-2009
Editor Board: American Journal of Blood Research, 2013~present; Formosan Journal of Musculoskeletal Disorders, 2013~present
Reviewer of journal, Gut, Journal of Investigative Dermatology, Molecular Therapy, Stem Cells, Stem Cells Translational Medicine, PLoS ONE, Cell Transplantation, 2011-2016.
Reviewer of journal, Cell Transplantation, 2010
Reviewer of journal, Haematologica, 2009
Reviewer of journal, Stem Cells 2005, 2006, 2007, 2008
Reviewer of journal, Stem Cells Dev 2007, 2008
Reviewer of journal, Gene Therapy 2005, 2008
Reviewer of journal, Biochemical Journal 2005
Reviewer of journal, J Biomed Mater Res 2006, 2007
Reviewer of journal, Acta Pharmacologica Sinica 2006
Reviewer of journal, J Neuroscience Method 2006
Reviewer of journal, Molecular & Cellular Proteomics 2004
Reviewer of journal, J Orthop Res 2008
Reviewer of journal, Acta Biomaterialia 2008
Reviewer of journal, Pathology - Research and Practice 2007, 2008/9/25 The Chinese Reviewer of journal, The Chinese Journal of Physiology 2007

Honors and Awards:

2020: 李天德基金會卓越醫藥科技獎
2016: Distinguished Research Award (傑出研究獎), MOST, Taiwan
2015：中華民國生物產業發展協會年度創新獎
2015：臺北生技獎-技轉合作獎之優勝
2014: The 2nd Award for Medical Technology Innovation, Taipei Veterans General Hospital

2012: The 1st place, best scientific paper award, Taipei Veterans General Hospital
2012: Award, 1st place, Cumulative SCI IF, Taiwan Orthopaedic Research Society
2012: Distinguished Research Award (傑出研究獎), NSC, Taiwan
2011: Award, 1st place, Cumulative SCI IF, Taiwan Orthopaedic Research Society
2010: The 2nd Award for Medical Technology Innovation, Taipei Veterans General Hospital
2007~2010: Outstanding award, National Yang-Ming University
2002: The best scientific paper award, Taipei Veterans General Hospital
2001: The best research award, Taiwan Orthopedic Association
1996: Award, Japanese Medical Association
1992 Scholarship from Ministry of Education for studying abroad 教育部公費留學獎學金

Scientific Expertise and Current Research Activities:

We have developed a platform to cultivate human bone marrow-derived mesenchymal stem cells (MSCs). Hypoxia up-regulates the expression of Oct4 and Nanog, which enhance Dnmt1 expression to suppress the expression of p16, p21 and lineage differentiation-associated transcription factors, and thereby maintain stemness and prevent spontaneous differentiation (**Molecular Cell, 2012**). Hypoxia also inhibits senescence, increases the proliferation rate and enhances differentiation potential via the activation of HIF/Twist pathway to suppress E2A/p21 (**Blood, 2011**). Besides, hypoxia modulates the paracrine effects of MSCs, causing upregulation of various secretable factors, thereby enhancing the effects of MSCs on wound healing and fracture repair (**Stem Cells, 2007**). Hypoxia plays an important role in mobilization and homing of MSCs to tissue injuries (**PLoS One, 2007**). Finally, MSCs expanded under hypoxic conditions can be applied for allogeneic transplantation in diseases such as musculoskeletal disorders, atherosclerosis, hepatic failure and limb ischemia (**J Ortho Res 2012; Am J Spots Med, 2013; Stem Cells Transl Med, 2015; J Hepatol, 2015; Cardiovascular Res, 2013**). We have filed patents that have been granted and transferred to a biotech company for IND and clinical trials in using allogeneic MSC for the treatment of several diseases, such as critical limb ischemia and osteoarthritis.

Recently, we have also investigated the interaction between MSCs and tumor cells. MSCs render tumor cells with stem cell properties (**Gastroenterology, 2011**) and enhance tumor angiogenesis and tumor growth (**Oncogene, 2013**). We also investigate the signaling pathways that cancer stem cells mediate to survive in suspension, tumorigenesis, resist apoptosis induced by therapies, such as anti-angiogenesis and chemotherapy (**Nature Comm 2016; Oncotarget 2018; Int J of Cancer, 2019**). These pathways can be applied to develop new strategies in treating cancer.

Publications: (*****corresponding author)

1. CY-Lin[#], YL-Wang[#], YJ-Chen, CT-Ho, YH-Chi, LY-Chan, GW-Chen, HC-Hsu, Dennis W Hwang, HC-Wu*, **SC-Hung*.** Functionalized osteoarthritis targeting peptides for MRI, lubricant and regenerative medicine. **Nature Biomed Eng**. In Print
2. CC-Liu, HH-Li, JH-Lin, MC-Chiang, TW-Hsu, Anna FY-Li, David HT-Yen, HS-Hsu*, **SC-Hung***. Esophageal cancer stem-like cells resist ferroptosis-induced cell death by active Hsp27-GPX4 pathway. **Biomolecules,** 12(1):48, 2022.
3. YT-Yen, May Chien, PY-Wu, Kevin CY-Huang, SF-Chiang, K. S. Clifford Chao, William TL-Chen, **SC-Hung***. Phosphatase 2A inactivation induces microsatellite instability, neoantigen production and immune response. **Nature Comm.** 12(1):7297.
4. MJ-Tsai, **SC-Hung**, CF-Weng, SF-Fan, DY-Liou, WC-Huang, KD-Liu, H-Cheng. Stem cell transplantation and/or adenoviral glial cell line-derived neurotrophic factor promote functional recovery in hemiparkinsonian rats. **World Journal of Stem Cells**, 13(1):78-90, 2021.
5. WC-Tseng, PY-Lee, MT-Tsai, FP-Chang, NJ-Chen, CT-Chien, **SC-Hung***, DC-Tarng*. Hypoxic mesenchymal stem cells ameliorate acute kidney ischemia-reperfusion injury via enhancing renal tubular autophagy. **Stem Cell Research & Therapy.** 12:367, 2021.
6. YT-Yen, May Chien, PY-Wu, **SC-Hung*.** PP2A in LepR+ mesenchymal stem cells contributes to embryonic and postnatal endochondral ossification through Runx2 dephosphorylation. **Communications Biology.** 4:658, 2021. Recommended by F1000 Prime.
7. CT-Ho, MH-Wu, MJ-Chen, SP-Lin, YT-Yen, **SC-Hung*.** Combination of Mesenchymal Stem Cell-delivered Oncolytic Virus with Prodrug Activation Increases Efficacy and Safety of Colorectal Cancer Therapy. **Biomedicines**. 9: 548, 2021.
8. CC-Ho, **SC-Hung***, WC-Ho*. Effects of short- and long-term exposure to atmospheric pollution on COVID-19 risk and fatality: analysis of the first epidemic wave in northern Italy. **Environ Res.** 199:111293, 2021.
9. HH-Li, CC-Liu, TW-Hsu, JH-Lin, JW-Hsu, Anna FY-Li, YC-Yeh, **SC-Hung***, HS-Hsu*. Upregulation of ACE2 and TMPRSS2 by particulate matter and idiopathic pulmonary fibrosis: a potential role in severe COVID-19. **Part Fibre Toxicol.** 18(1):11, 2021.
10. SE-Shai, YL-Lai, Brian J Huang, KJ-Yu, CW-Hsieh, YS-Chen, **SC-Hung***. Feasibility of in situ chondrogenesis for the entire umbilical cord in preliminary preparation for tracheal graft. **Am J Transl Res.** 13(3):1307-1321, 2021.
11. SE-Shai, YL-Lai, HW-Tang, **SC-Hung*.** Treatment of trivial esophageal cancer having huge devastating airway obstruction via use of a modified emergent tracheostomy under local anaesthesia. **Asian J Surg.** 2020 Sep 25;S1015-9584(20)30279-7.
12. SE-Shai, YL-Lai, HW-Tang, **SC-Hung*.** Treatment of stent-related fulminating granulation tissue via emergent tracheostomy under topical anaesthesia. **Asian J Surg.** 2020 Sep 25:S1015-9584(20)30276-1.

13. SE-Shai, YL-Lai, HW-Tang, **SC-Hung*.** Retrieval of an incarcerated denture through a cervical esophagotomy adjuvant with Montgomery T-tube drainage. **Asian J Surg.** 2020 Oct;43(10):1044-1046.
14. SE-Shai, YL-Lai, YW-Hung, CW-Hsieh, BJ-Huang, KC-Su, CH-Wang, **SC-Hung***. De novo cartilage growth after implantation of a 3-D-printed tracheal graft in a porcine model. **Am J Transl Res** 2020 Jul 15;12(7):3728-3740
15. JP-Wang, YT-Liao, SH-Wu, ER-Chiang, SH-Hsu, TC-Tseng, **SC-Hung**. Mesenchymal Stem Cells From a Hypoxic Culture Improve Nerve Regeneration. **J Tissue En Regen Med**. 14(12):1804-1814, 2020
16. SE-Shai, YL-Lai, HW-Tang, **SC-Hung*.** Empyema thoracis complicated by anaemia as caused by occult bonelet aspiration. **Respirol Case Rep**. 2020 Sep 10;8(8):e00661
17. Shai SE, Lin YH,Lai YL, Tang HW, Hsieh YW, **SC-Hung***. Phantom simulation of liver metastasis on a positron emission tomography with computed tomography scan after neoadjuvant chemoradiotherapy for distal esophageal cancer: a case report. **J Med Case Rep**. 2020 Jul 7;14(1):106. doi: 10.1186/s13256-020-02391-z.
18. Rajeev Vikram, Wen Cheng Chou, **SC-Hung**, Chen-Yang Shen*. Tumorigenic and Metastatic Role of CD44 -/low/CD24 -/low Cells in Luminal Breast Cancer. **Cancers. 2020**, 12, 1239
19. Shai SE, Lai YL, Tang HW, **SC-Hung***. New perspectives for a huge traumatic pneumatocele treatment in a young adult. **Respirol Case Rep.** 2020 Feb 17;8(3):e00537.
20. SE-Shai, LL-Wang, **SC-Hung***. Curing a patient of recurrent tracheal papillomatosis using laser ablation and adjuvant radiotherapy. **Ann Thorac Surg.** 2020 August. 110: e91-e93.
21. Shai SE, Lai YL, Li HN, **SC-Hung***. 3-D printing model used to streamline surgical procedures for an intricate condition of airway compression caused by devastating mediastinal chondrosarcoma: a case report. **J Med Case Rep.** 2020 Jan 19;14(1):14.
22. C-Liu, CT-Chou, CH-Chen, CH-Chen, SY-Yang, YA-Kao, YT-Wu, CC-Wang, FC-Liu, CY-Yue, **SC-Hung**, IS-Tzeng, WC-Tsai, KI-Lin. Aberrant distribution and function of plasmacytoid dendritic cells in patients with ankylosing spondylitis are associated with unfolded protein response. **Kaohsiung J Med Sci**. 36:441-449, 2020
23. HS-Hsu, CC-Liu, JH-Lin, TW-Hsu, JW-Hsu, Anna FY-Li, **SC-Hung***. Involvement of collagen XVII in pluripotency gene expression and metabolic reprogramming of lung cancer stem cells. **Journal of Biomedical Science.** 27:5, 2020.
24. YT-Yen, Chien May, YC-Lai, DP-Chen, CM-Chuong, MC-Hung, **SC-Hung***. PP2A deficiency enhances carcinogenesis of Lgr5+ intestinal stem cells both in organoids and in vivo. **Cells**. 9(1), 90, 2019.
25. IY-Cheng, CC-Liu, JH-Lin, TW-Hsu, JW-Hsu, Anna FY-Li, **SC-Hung***, HS-Hsu*. Particulate Matter Increases the Severity of Bleomycin-Induced Pulmonary Fibrosis through KC-Mediated Neutrophil Chemotaxis. **International Journal of Molecular Sciences.** *21*(1), 227, 2019.

26. WL-Chang, H-Wu, YK-Chiu, S-Wnag, TX-Jiang, ZL-Luo, YC-Lin, A-Li, JT-Hsu, HL-Huang, HJ-Gu, TY-Lin, SM-Yang, TT-Lee, YC-Lai, M-Lei, MY-Shie, CT-Yao, YW-Chen, JC-Tsai, SJ-Shieh, YK-Hwu, HC-Cheng, PC-Tang, **SC-Hung**, CF-Chen, M-Habib, RB-Widelitz, P- Wu, WT-Juan, CM-Chuong. The Making of a Flight Feather: Bio-architectural Principles and Adaptation. **Cell**. 179(6):1409-1423, 2019.

27. KT-Chou, SC-Cheng*, SF-Huang, DW-Perng, SC-Chang, YM-Chen, HS-Hsu, **SC-Hung***. Impact of Intermittent Hypoxia on Sepsis Outcomes in a Murine Model. **Sci Rep**. 9:12900, 2019.

28. CP-Tien, CH-Chen, WY-Lin, CS-Liu, KJ-Liu, Michael Hsiao, YC-Chang*, **SC-Hung***. Ambient particulate matter attenuates sirtuin1 and augments SREBP1-PIR Axis to induce human pulmonary fibroblast Inflammation: Molecular mechanism of microenvironment associated with COPD. **Aging**, 2019. 11(13):4654-4671.

29. CH-Liu, Sengupta Raj, CH-Chen, CT-Chou, IH-Chen, JT-Chien, IY-Lin, SY-Yang, Takashi Angata, WC-Tsai, James CC-Wei, IS-Tzeng, **SC-Hung***, KI-Lin*. HLA-B27-mediated activation of TNAP phosphatase promotes pathogenic syndesmophyte formation in ankylosing spondylitis. **Journal of Clinical Investigation.** 129(12):5357-5373, 2019. Highlighted by Nature Reviews Rheumatology.

30. WC-Shen, YC-Lai, LH-Li, Kolin Liao, HC-Lai, SY-Kao, John Wang, CM-Chuong, **SC-Hung***. Methylation and PTEN activation in dental pulp mesenchymal stem cells promotes osteogenesis and reduces oncogenesis. **Nature Communications**, 10: 2226, 2019. Recommended by F1000 Prime.

31. ER-Chaing, HL-Ma, JP-Wang, MC-Chang, CL-Liu, TH-Chen, **SC-Hung***. Use of Allogeneic Hypoxic Mesenchymal Stem Cells for Treating Disc Degeneration in Rabbits. **J Orthop Res**. 37: 1440-1450, 2019

32. Vincent YF-Su, CS-Lin, **SC-Hung**, HY-Yang. Mesenchymal stem cell-conditioned medium induces neutrophil apoptosis associated with inhibition of the NF-κB pathway in endotoxin-induced acute lung injury. **Int J of Mol Sci.** 20:208, 2019.

33. CH-Liu, HT-Chou, JW-Hsu, JH-Lin, TW-Hsu, David HT-Yen, **SC-Hung***, HS-Hsu*. High metabolic rate and stem cell characteristics of esophageal cancer stem-like cells depend on the Hsp27-AKT-HK2 pathway. **Int J of Cancer**. 145(8):2144-2156, 2019.

34. WC-Shen, YH-Chou, HP-Huang, JF-Sheen, **SC-Hung**, HF-Chen. Induced pluripotent stem cell-derived endothelial progenitor cells attenuate ischemic acute kidney injury and cardiac dysfunction. **Stem Cell Res Ther**. 9(1):344, 2018

35. TY-Kuo, CM-Lin, **SC-Hung**, TY-Hsien, DM-Wang, HJ-Hsieh. Incorporation and selective removal of space-forming nanofibers to enhance the permeability of cytocompatible nanofiber membranes for better cell growth. **Journal of the Taiwan Institute of Chemical Engineers.** 91:146–154, 2018.

36. JP-Wang, HM-Yu, ER-Chiang, JY-Wang, PH-Chou, **SC-Hung**. Corticosteroid inhibits differentiation of palmar fibromatosis-derived stem cells (FSCs) through downregulation of transforming growth factor-β1 (TGF-β1). **PLoS One**. 13:e0198326, 2018.
37. CH-Ho, CW-LaN, CY-Liao, **SC-Hung**, HY-Li, YJ-Sung. Mesenchymal stem cells and their conditioned medium can enhance the repair of uterine defects in a rat model. **J Chin Med Assoc.** 81(3):268-276, 2018.
38. CC-Liu, Jhan-Lin, TW-Hsu, JW-Chang, Kelly Su, HS-Hsu, **SC-Hung*.** Collagen XVII/Laminin-5 Activates Epithelia-to-Mesenchymal Transition and is Associated with Poor Prognosis in Lung Cancer. **Oncotarget,** 9(2):1656-1672, 2018.
39. YY-Lin, CH-Chiang, **SC-Hung**, CF-Chian, CL-Tsai, WC-Chen, H-Zhang. Hypoxia-preconditioned mesenchymal stem cells ameliorate ischemia/reperfusion-induced lung injury. **PLoS One**. 12(11):e0187637, 2017
40. HS-Hsu, CC-Liu, JH-Lin, TW-Hsu, JW-Hsu, Kelly Su, **SC-Hung***. Involvement of ER stress, PI3K/AKT activation, and lung fibroblast proliferation in bleomycin-induced pulmonary fibrosis. **Sci Rep**. 7(1):14272, 2017.
41. HY-Chiu, YG-Tsay, **SC-Hung*.** Involvement of mTOR-autophagy in the selection of primitive mesenchymal stem cells in chitosan film 3-dimensional culture. **Sci Rep**. 7(1):10113, 2017.
42. MY-Yeh, JY-Zhao, YR-Hsieh, JH-Lin, FY-Chen, Rajan Deepan Chakravarthy, PC-Chung, HC-Lin, **SC-Hung*.** Reverse thermo-responsive hydrogels prepared from Pluronic F127 and gelatin composite materials. **RSC Advances.** 7:21252–21257, 2017.
43. Wu PK, Chen CF, Wang JY, Chen PC, Chang MC, **SC-Hung**, Chen WM. Freezing Nitrogen Ethanol Composite May be a Viable Approach for Cryotherapy of Human Giant Cell Tumor of Bone. **Clin Orthop Relat Res.** 475(6):1650-1663, 2017.
44. Chiu JH, Wen CS, Wang JY, Hsu CY, Tsai YF, **SC-Hung**, Tseng LM, Shyr YM. Role of estrogen receptors and Src signaling in mechanisms of bone metastasis by estrogen receptor positive breast cancers. **J Transl Med.** 15(1):97, 2017.
45. JY-Wang, WM-Chen, CS-Wen, **SC-Hung**, PW-Chen, JH-Chiu. Du-Huo-Ji-Sheng-Tang and its active component Ligusticum chuanxiong promote osteogenic differentiation and decrease the aging process of human mesenchymal stem cells. **Journal of Ethnopharmacology**. 198: 64–72, 2017.
46. CH-Lin, MC-Chang, **SC-Hung**, SY-Lee, YM-Lin. Bioactive surface modification of polycaprolactone using MG63-conditioned medium can induce osteogenic differentiation of mesenchymal stem cells. **Journal of Materials Science.** 52: 3967-3978, 2017.
47. CH-Su, KY-Hung, **SC-Hung**, WY-Tarn. RBM4 regulates neuronal differentiation of mesenchymal stem cells by modulating alternative splicing of pyruvate kinase M. **Mol Cell Biol**. 20 37(3). pii: e00466-16, 2017.

48. PK-Wu, JY-Wang, WM-Chen, **SC-Hung*.** Early passage Mesenchymal Stem Cells display decreased radiosensitivity and increased DNA repair activity. **Stem Cells Translational Medicine,** 6(6):1504-1514, 2017.
49. WL-Tsai, PH-Yeh, CY-Tsai, CT-Ting, YH-Chiu, MH-Tao, WC-Li, **SC-Hung*.** Efficient Programming of Human Mesenchymal Stem Cell Derived Hepatocytes by Epigenetic Regulations. **Journal of Gastroenterology and Hepatology**. 32(1):261-269, 2017.
50. YL-Wang, SP-Lin, Srinivasa R Nelli, FK-Zhan, Hsun Cheng, HC-Lin, **SC-Hung*.** Self-assembled Peptide-based Hydrogels as Scaffolds for Proliferation and Multi-differentiation of Mesenchymal Stem Cells. **Macromolecular Bioscience**. 17(4). doi: 10.1002/mabi.201600192, 2017
51. TJ-Lu, FY-Chiu, HY-Chiu, MC-Chang, **SC-Hung*.** Chondrogenic differentiation of mesenchymal stem cells in three-dimensional chitosan film culture. **Cell Transplantation.** 26(3):417-427, 2017.
52. JY-Wang, CW-Lee, PQ-Wu, Paul CH-Chen, WM-Chen, **SC-Hung*.** Generation of Osteosarcomas from a Combination of Rb Silencing and c-Myc Overexpression in Human Mesenchymal Stem Cells. **Stem Cells Translational Medicine,** 6(2):512-526, 2017.
53. ER-Chiang, HL-Ma, JP -Wang, CL-Liu, TH-Chen, **SC-Hung*.** Multi-lineage differentiation and angiogenesis potentials of pigmented villonodular synovitis derived mesenchymal stem cells - pathological implication. **J Orthop Res.** 34(3):395-403, 2016.
54. ER-Chiang, HL-Ma, JP-Wang, CL-Liu, TH-Chen, **SC-Hung***. Allogeneic mesenchymal stem cells in combination with hyaluronic acid for the treatment of osteoarthritis in rabbits. **PLoS One,** 11(2):e0149835, 2016.
55. Yeh, M.-Y.; Huang, C.-T.; Lai, T.-S.; Chen, F.-Y.; Chu, N.-T.; Tseng, D. T.-H.; **SC-Hung**.; Lin, H.-C.* "The Effect of Peptide Sequences on Supramolecular Interactions of Naphthaleneimide/Tripeptide Conjugates" **Langmuir.** 32(30):7630-8. 2016
56. Yeh, M.-Y.; Huang, C.-W.; Chang, J.-W.; Huang, Y.-T.; Lin, J.-H.; Hsu, S.-M. ; Hung, S.-C.; Lin, H.-C.* "A novel nanostructured supramolecular hydrogel self-assembled from tetraphenylethylene-capped dipeptides" **Soft Matter.** 12(30):6347-51, 2016
57. Su, S.-M.; Wu, F.-Y.; Cheng, H.; Huang, Y.-T.; Hsieh, Y.-R.; Tseng, D. T.-H.; Yeh, M.-Y.; Hung, S.-C.; Lin, H.-C.* "Functional Supramolecular Polymers: A Fluorescent Microfibrous Network in a Supramolecular Hydrogel for High-Contrast Live Cell-Material Imaging in 3D Environments" **Adv. Healthc. Mater**. 5(18):2406-12. 2016
58. KC-Chang, **SC-Hung***. Hypoxia-preconditioned allogeneic mesenchymal stem cells can be used for myocardial repair in non-human primates. **J Thorac Dis**. 8(7):E593-5, 2016.
59. YL-Wang, SP-Lin, Patrick C Hsieh, **SC-Hung*.** Concomitant beige adipocyte differentiation upon induction of mesenchymal stem cells into brown adipocytes. **Biochem Biophys Res Commun**. 478(2):689-95, 2016. CC-Liu, SP-Lin , HS-Hsu, SH-Yang, CH-Lin, MH-Yang, MC-

Hung, **SC-Hung***. Suspension survival mediated by PP2A-STAT3-Col XVII determines tumour initiation and metastasis in cancer stem cells. **Nature Communications.** 7:11798, 2016.

60. YL-Lin, SF-Yet, YT-Hsu, GJ-Wang, **SC-Hung*.** Mesenchymal stem cells ameliorate atherosclerotic lesions via restoring endothelial function., 4(1):44-55, 2015.

61. HL-Wang, CH-Yang, HH-Lee, JC-Kuo, SS-Hur, S-Chien, OK-Lee, SC-Hung, ZF-Chang. Dexamethasone-induced cellular tension **Stem Cells Translational Medicine** requires SGK1-stimulated Sec5/GEF-H1 interaction. **J Cell Sci**, 128(20):3757-68, 2015.

62. PM-Chen, CH-Lin, NT-Li, YM-Wu, MT-Lin, **SC-Hung**, ML-Yen. c-Maf regulates pluripotency genes, proliferation/self-renewal, and lineage commitment in ROS-mediated senescence of human mesenchymal stem cells. **Oncotarget**. 6(34):35404-18, 2015.

63. MC-Tsai, KC-Hung, **SC-Hung**, SH-Hsu. Evaluation of biodegradable elastic scaffolds made of anionic polyurethane for cartilage tissue engineering. **Colloids Surf B Biointerfaces.** 125:34-44, 2015

64. RY-Tsai, TY-Kuo, **SC-Hung**, CM-Lin, TY-Hsien, DM-Wang, HJ-Hsieh. Use of gum arabic to improve the fabrication of chitosan-gelatin-based nanofibers for tissue engineering. **Carbohydrate Polymers,** 115: 525-532, 2015

65. KC-Lee, HC-Lin, YH-Huang, **SC-Hung*.** Allo-transplantation of Mesenchymal Stem Cells Attenuates Immune-Mediated Hepatic Injury through Increasing Serum Interleukin 10 Level and Inducing Pulmonary Macrophages Switch. **J Hepatol**, 63(6):1405-12, 2015. editorial: Mesenchymal stromal cells – Where art thou?

66. CC-Liu, JH-Lin, TW-Hsu, K-Su, Anna FY-Li, HS-Hsu, **SC-Hung*.** IL-6 Enriched Lung Cancer Stem-like Cell Population by Inhibition of Cell Cycle Regulators via DNMT1 Up-regulation. **Int. J. of Cancer**, 136(3):547-59, 2015. **(IF: 5.007; Rank: 34/203)**

67. MW-Deng, SJ-Wei, TL-Yew, PH-Lee, TY-Yang, HY-Chu, **SC-Hung*.** Cell therapy with G-CSF-mobilized stem cells in a rat osteoarthritis model. **Cell Transplantation**. 24(6):1085-96, 2015.

68. CC-Wei, Andrew Boyd Lin, **SC-Hung*** Mesenchymal stem cells in regenerative medicine for musculoskeletal diseases- bench, bedside and industry. **Cell Transplantation**. 23(4):505-12, 2014.

69. WH-Huang, HL-Chen, PH-Huang, TL-Yu, MW-Lin, SJ-Lin, **SC-Hung*** Hypoxic mesenchymal stem cells engraft and ameliorate limb ischemia in allogeneic recipients. **Cardiovascular Research**, 101(2):266-76, 2014.

70. RY-Tsai, **SC-Hung**, JY-Lai, HJ-Hsieha. Electrospun chitosan–gelatin–polyvinyl alcohol hybrid nanofibrous mats: Production and characterization. **Journal of the Taiwan Institute of Chemical Engineers**, 45:1975–1981, 2014

71. HS-Hsu, CC-Liu, JH-Lin, TW-Hsu, K-Su, **SC-Hung***. Repair of naphthalene-induced acute tracheal injury by basal cells depends on β-catenin. **J Thorac Cardiovasc Surg**. 148:322-332, 2014.

72. CC-Yen, CD-Hsiao, WM-Chen, YS-Wen, YC-Lin, TW-Chang, FY-Yao, **SC-Hung**, JY-Wang, JH-Chiu, HW-Wang, CH-Lin, TH-Chen, PC-Chen, CL-Liu, CH-Tzeng, JA- Fletcher.

Cytotoxic effects of 15d-PGJ2 against osteosarcoma through ROS-mediated AKT and cell cycle inhibition. **Oncotarget**. 5(3):716-25, 2014.

73. MC-Chang[#], CH-Tsao[#], WH-Huang, Paul CH-Chen, **SC-Hung*.** Conditioned medium derived from mesenchymal stem cells overexpressing HPV16 E6E7 dramatically improves ischemic limb. **Journal of Molecular and Cellular Cardiology**, 72:339-49, 2014. ([#]Equal Contribution) JY-Wang, PK-Wu, PC-Chen, CC-Yen, GY-Hung, CF-Chen, **SC-Hung**, SF-Tsai, CL-Liu, TH-Chen, WM-Chen. Manipulation therapy prior to diagnosis induced primary osteosarcoma metastasis-from clinical to basic research. **PLoS One.** 9(5):e96571, 2014.

74. MF-Wei, MW-Chen, KC-Chen, PJ-Lou, **SC-Hung**, M-Hsiao, CJ-Yao, MK-Shieh. Autophagy promotes resistance to photodynamic therapy-induced apoptosis selectively in colorectal cancer stem-like cells. **Autophagy.** 10(7):1179-92, 2014.

75. KT-Chou, KC-Su, SF-Huang, YH-Hsiao, CM-Tseng, VY-Su, **SC-Hung**, DW-Perng. Exhaled Nitric Oxide Predicts Eosinophilic Airway Inflammation in COPD. **Lung**, 192:499-504 2014.

76. YC-Kuo, **SC-Hung**, SH-Hsu**.** The effect of elastic biodegradable polyurethane electrospun nanofibers on the differentiation of mesenchymal stem cells. **Colloids Surf B Biointerfaces,** 122C:414-422, 2014.

77. KT-Chou, CC-Liu, HS-Hsu, SC-Chang, YM-Chen, DW-Perng, YT-Hsu, YC-Lee, **SC-Hung*.** Nocturnal Stem Cell Mobilization in Patients with Obstructive Sleep Apnea. **European Journal of Clinical Investigation,** 44(12):1189-96, 2014.

78. JK-Lou, FM-Wang, CH-Tsai, **SC-Hung**, PH-Kung, SD-Lin, KT-Chen, CL-Lei. A social diffusion model with an application on election simulation. **Scientific World Journal**. 180590, 2014

79. FY-Chiu, SP-Lin, Y-Wang, SY-Kao, **SC-Hung*.** Rb maintains quiescence and prevents premature senescence through up-regulation of DNMT1 in mesenchymal stem cells. **Stem Cell Reports**, 3(6):975-86, 2014 (Cell Press Journal)

80. SP-Lin, YT-Lee, SH-Yang, Stephanie A. Miller, SH-Chiou, MC-Hung*, **SC-Hung*.** Colon Cancer Stem Cells Resist Antiangiogenesis Therapy-induced Apoptosis. **Cancer Letters,** 328(2):226-34, 2013.

81. TF-Huang, TL-Yew, ER-Chiang, HL-Ma, CY-Hsu, SH-Hsu, **SC-Hung***. Mesenchymal stem cells from hypoxic culture improve and engraft Achilles tendon healing. **Am J Sports Med**. 41(5):1117-25, 2013

82. YF-Huang, MJ-Chen, MS-Wu, **SC-Hung*.** The use of hypoxic cultured mesenchymal stem cell for oncolytic virus therapy. **Cancer Gene Therapy**. 20(5):308-16, 2013.

83. YL-Yu, RH-Chou, WC-Shyu, C-Hsieh, CS-Wu, SY-Chiang, WJ-Chang, JN-Chen, YJ-Tseng, YH-Lin, W-Lee, SP-Yeh, JL-Hsu, CC-Yang, **SC-Hung**, Hung MC. Smurf2-mediated degradation of EZH2 enhances neuron differentiation and improves functional recovery after ischaemic stroke. **EMBO Mol Med**. 5(4):531-47, 2013.

84. **SC-Hung***. Effects of hypoxic culture on bone marrow mesenchymal stem cells: from bench to bedside. **Formosan Journal of Surgery** 2013 (review)

85. CM-Chen, HH-Lin, **SC-Hung**, TF-Hung, WM-Chen, CL-Liu, TH-Chen. Surgical Treatment for Septic Arthritis of the Knee Joint in Elderly Patients: A 10-year Retrospective Clinical Study. **Orthopedics.** 36(4):e434-43, 2013

86. Sunny LY-Chang, RH-Chou, HJ-Zeng, YH-Lin, TY-Chiu, DM-Yang, **SC-Hung**, CH-Lai, JT-Hsieh, WC-Shyu, YL-Yu. Downregulation of DAB2IP Promotes Mesenchymal-to-Neuroepithelial Transition and Neuronal Differentiation of Human Mesenchymal Stem Cells. **PLoS One**, 8(9):e75884, 2013

87. HH-Lee, M-J-Shieh, J-P-Wang, YT-Chen, SS-Wu, TH-Young, **SC-Hung*.** Hypoxia Enhances Chondrogenesis and Prevents Terminal Differentiation through PI3K/Akt/FoxO Dependent Anti-Apoptotic Effect. **Scientific Reports**. 3:2683, 2013

88. WH-Huang, MC-Chang, KS-Tsai, MC-Hung, HL-Chen, **SC-Hung*.** Mesenchymal Stem Cells Promote Growth and Angiogenesis of Tumors in Mice. **Oncogene,** 32(37):4343-54, 2013**.**

89. TL-Yew, MC -Chang, YT-Hsu, FY-He, WH-Weng, CC-Tsai, FY-Chiu, **SC-Hung***. Efficient expansion of mesenchymal stem cells from mouse bone marrow under hypoxic conditions. **Journal of Tissue Engineering and Regenerative Medicine**. 7(12):984-93, 2013.

90. CC-Tsai, TF-Huang, HL-Ma, ER-Chiang, **SC-Hung*.** Isolation of mesenchymal stem cells from shoulder rotator cuff: potential source for muscle and tendon repair. **Cell Transplantation**. 22(3):413-22, 2013.

91. HL-Ma, ER-Chiang, HT-Wu, **SC-Hung**, ST-Wang, CL-Liu, TH-Chen. Clinical Outcome and Imaging of Arthroscopic Single-Row and Double-Row Rotator Cuff Repair: A Prospective Randomized Trial. **Arthroscopy.** 28(1):16-24. 2012

92. CC-Tsai, PF-Su, YF-Huang, TL-Yew, **SC-Hung*.** Oct4 and Nanog directly regulate Dnmt1 to maintain self-renewal and undifferentiated state in mesenchymal stem cells. **Molecular Cell,** 47: 169–182, 2012. Recommended by F1000 Prime.

93. YL-Chang, SJ-Chen, CL-Kao, **SC-Hung**, DC-Ding, CC-Yu, YJ-Chen, HH-Ku, CP-Lin, KH-Lee, YC-Chen, JJ-Wang, CC-Hsu, LK-Chen, HY-Li, Sh-Chiou*. Docosahexaenoic Acid Promotes Dopaminergic Differentiation in Induced Pluripotent Stem Cells and Inhibits Teratoma Formation in Rats with Parkinson-like Pathology. **Cell Transplantation**. 21(1):313-32, 2012.

94. HS-Hsu, JHan-Lin, TW-Hsu, Kelly Su, CW-Wang, KY-Yang, SH-Chiou, **SC-Hung***. Mesenchymal Stem Cells Enhance Lung Cancer Initiation Through Activation of IL-6/JAK2/STAT3 Pathway. **Lung Cancer**, 75(2):167-77, 2012.

95. CY-Wang, HB-Yang, HS-Hsu, LL-Chen, CC-Tsai, KS-Tsai, TL-Yew, YH-Kao, **SC-Hung***. Mesenchymal Stem Cell-Conditioned Medium Facilitates Angiogenesis and Fracture Healing in Diabetic Rats. **Journal of Tissue Engineering and Regenerative Medicine**. 2012 Jul;6(7):559-69.

96. TL-Yew, TF-Huang, HL-Ma, YT-Hsu, CC-Tsai, CC-Chiang, WM-Chen, **SC-Hung***. Scale-up of MSCs under hypoxic conditions for allogeneic transplantation and enhancing bony regeneration

in a rabbit calvarial defect model. **J. Orthop Res**, 30:1213-20, 2012.

97. JY-Wang, CC-Chang, CC-Chiang, WM-Chen, **SC-Hung*.** Silibinin suppresses the maintenance of colorectal cancer stem-like cells by inhibiting PP2A/AKT/mTOR pathways. **Journal of Cellular Biochemistry**, 113(5):1733-43, 2012

98. YF-Huang, JJ-Lin, CH-Lin, Y-Su, **SC-Hung*.** c-Jun N-terminal kinase 1 negatively regulates osteoblastic differentiation induced by BMP-2 via phosphorylation of Runx2 at Ser104. **Journal of Bone and Mineral Research**. 27(5):1093-105, 2012

99. GY-Chiou, JY-Cherng, HS-Hsu, ML-Wang, CM-Tsai, KH-Lu, Y-Chien, **SC-Hung**, YW-Chen, CI-Wong, LM-Tseng, PI-Huang, CC-Yu, WH-Hsu, Chiou SH-Chiou. Cationic polyurethanes-short branch PEI-mediated delivery of Mir145 inhibited epithelial-mesenchymal transdifferentiation and cancer stem-like properties and in lung adenocarcinoma. **J Control Release**. 159(2):240-50, 2012

100. HL-Ma, HK-Huang, ER-Chiang, ST-Wang, **SC-Hung**, CL-Liu. Arthroscopic pancapsular plication for multidirectional shoulder instability in overhead athletes. **Orthopedics**. 35:e497-502. 2012

101. SP-Lin, YT-Lee, JY-Wang, Stephanie A. Miller, SH-Chiou, MC-Hung*, **SC-Hung*.** Survival of cancer stem cells under hypoxia and serum depletion via decrease in PP2A activity and activation of p38-MAPKAPK2-Hsp27. **PLoS One,** 7(11): e49605, 2012.

102. CC-Tsai, **SC-Hung*.** Functional roles of pluripotency transcription factors in mesenchymal stem cells. **Cell Cycle**, 11(20):3711-2, 2012.

103. HH-Lin, WH-Chang, TF-Huang, **SC-Hung**, HL-Ma, CL-Liu. Bilateral stress fractures of the ulna in a young adolescent. **J Pediatr Orthop B.** 78(5):592-6, 2012

104. CC-Tsai, TL-Yew, DC-Yang, WH-Huang, **SC-Hung*.** Benefits of hypoxic culture on bone marrow multipotent stromal cells. **Am J Blood Res.** 2(3):148-59, 2012. (review)

105. Lin YP, Huang TF, **Hung SC**, Ma HL, Liu CL. Rotator cuff tears in patients younger than 50 years of age. **Acta Orthop Belg.** 78(5):592-6, 2012.

106. TL-Yew, FY-Chiu, CC-Tsai, HL-Chen, YJ-Chen, MC-Chang, **SC-Hung***. Knockdown of $p21^{Cip1/Waf1}$ enhances proliferation, the expression of stemness markers and osteogenic potential in human mesenchymal stem cells. **Aging Cell**, 10(2):349-361, 2011.

107. YL-Yu, RH-Chou, LT-Chen, WC-Shyu, SC-Hsieh, CS-Wu, HJ-Zeng, SP-Yeh, DM-Yang, **SC-Hung**, MC-Hung. EZH2 regulates neuronal differentiation of mesenchymal stem cells through PIP5K1C-dependent calcium signaling. **J Biol Chem**. 286(11):9657-67, 2011.

108. DC-Yang, MH-Yang, CC-Tsai, TF-Huang, YH-Chen, **SC-Hung***. Hypoxia inhibits osteogenesis in human mesenchymal stem cells through direct regulation of RUNX2 by TWIST. **PLoS ONE**, 6, e:23965, 2011.

109. CC-Tsai, DC-Yang, HC-Fu, HJ-Tsay, YF-Liao, TF-Huang, YH-Chen, **SC-Hung***. twist controls skeletal development and dorsoventral patterning by regulating runx2 in zebrafish. **PLoS ONE**, 6, e27324, 2011.

110. YH-Chen, FL-Yeh, SP-Yeh, HT-Ma, **SC-Hung**, MC-Hung, LY-Li. MITR is a swith that promotes osteogenesis and inhibits adipogenesis of mesenchymal stem cells by inactivating PPARγ-2. **J Biol Chem**. 286(12):10671-80, 2011.

111. JP-Wang, YJ-Hui, ST-Wang, YC-Huang, ER-Chiang, CL-Liu, TH-Chen, **SC-Hung***. Fibromatosis stem cells rather than bone-marrow mesenchymal stem cells recapitulate a murine model of fibromatosis. **Biochem Biophys Res Commun**. 408: 269–275, 2011

112. KS-Tsai, SH-Yang, YP-Lei, CC-Tsai, HW-Chen, CY-Hsu, LL-Chen, HW-Wang, Stephanie A. Miller, SH-Chiou, MC-Hung, **SC-Hung***. Mesenchymal Stem Cells Promote Formation of Colorectal Tumors in Mice. **Gastroenterology,** 141(3):1046-56, 2011.

113. HJ-Chiou, **SC-Hung**, SY-Lin, TK-Wu, YT-Huang. FT-IR microscopic imaging of calcified deposit of rotator cuff tendonitis: A pilot study and a randomised identification of the compositional components after extrusion from tendon to muscle. **Vibrational Spectroscopy**. 57:135-139, 2011.

114. ER-Chiang, HL-Ma, ST-Wang, **SC-Hung**, CL-Liu, TH-Chen. Hamstring graft sizes differ between Chinese and Caucasians. **Knee Surg Sports Traumatol Arthrosc.** 20(5):916-21, 2012.

115. JP-Wang, YJ-Hui, ST-Wang, HH-Yu, YC-Huang, ER-Chiang, CL-Liu, TH-Chen, **SC-Hung*.** Recapitulation of fibromatosis nodule by multipotential stem cells in immunodeficient mice. **PLoS One.** 6:e24050, 2011.

116. YT-Chen, JD-Wei, CL-Liu, **SC-Hung***. Isolation of mesenchymal stem cells from human ligamentum flavum: implicating etiology of ligamentum flavum hypertrophy. **Spine**. 36(18):E1193-E1200, 2011.

117. HS-Hsu, PI-Huang, YL-Chang, C-Tzao, YW-Chen, HC-Shih, **SC-Hung**, YC-Chen, LM-Tseng, SH-Chiou. Cucurbitacin I Inhibits Tumorigenic Ability and Enhances Radiochemosensitivity in Non-Small Cell Lung Cancer-derived $CD133^+$ Cells. **Cancer** 117:2970-2985, 2011.

118. HY-Li, CY-Liao, KH-Lee, HC-Chang, YJ-Chen, KC-Chao, SP-Chang, HY-Cheng, CM-Chang, YL-Chang, **SC-Hung**, YJ-Sung, SH-Chiou. Collagen IV Significantly Enhances Migration and Transplantation of Embryonic Stem Cells: Involvement of α2β1 Integrin-mediated Actin Remodeling. **Cell Transplantation**. 20(6):893-907, 2011.

119. CC-Yu, WL-Lo, YW-Chen, PI-Huang, HS-Hsu, LM-Tseng, **SC-Hung**, SY-Kao, CJ-Chang, SH-Chiou. Bmi-1 Regulates Snail Expression and Promotes Metastasis Ability in Head and Neck Squamous Cancer-Derived ALDH1 Positive Cells. **J Oncol**. 2011: 609259, 2011.

120. JP-Wang, MH-Wen, YT-Chen, HH-Lee, ER-Chiang, YT-Lee, CL-Liu, TH-Chen, **SC-Hung***. Trichostatin A inhibits TGF-β1 induced In Vitro Chondrogenesis of hMSCs through Sp1 suppression. **Differentiation**. 81(2):119-26, 2011.

121. TL-Yew, YT-Hung, HY-Li, LL-Chen, KS-Tsai, SH-Chiou, KC-Chao, **SC-Hung*** Enhancement of wound healing by human multipotent stromal cell conditioned medium: the paracrine factors and p38MAPK activation. **Cell Transplantation**. 20:693–706, 2011

122. YJ-Wei, LC-Lin, CW-Chi, TH-Tsai, **SC-Hung*.** Catechin stimulates osteogenesis by enhancing PP2A activity in human mesenchymal stem cells. **Osteoporosis Int**. 22:1469-79, 2011.

123. HS-Hsu*, JH-Lin, KS-Tsai, LL-Chen, SH-Chiou, **SC-Hung***. Chemo-resistance of Lung Cancer Stem-like Cells Depends on Activation of Hsp27. **Cancer** 117(7):1516-28, 2011.

124. CC-Tsai, YJ-Chen, LL-Chen, TL-Yew, JY-Wang, CH-Chiu, **SC-Hung***. Hypoxia inhibits senescence and maintains mesenchymal stem cell properties through downregulation of E2A-p21 by HIF-TWIST. **Blood** 117(2):459-69. 2011.

125. KS-Tsai, CY-Wang, YJ-Wang, **SC-Hung***. Type I collagen promotes proliferation and osteogenesis of human mesenchymal stem cells via activation of ERK and Akt pathways. **Journal of Biomedical Material Research A.** 94(3):673-82, 2010.

126. HJ-Chiou; **SC-Hung**; SY-Lin; YS-Wei; MJ-Li. Correlations among Mineral Components, Progressive Calcification Process, and Clinical Symptoms of Calcific Tendonitis. **Rheumatology**, 49(3):548-55, 2010.

127. CY-Wang, LL-Chen, PY-Kuo, JL-Chang , YJ-Wang, **SC-Hung***. Apoptosis in chondrogenesis of human mesenchymal stem cells: effect of serum and medium supplements. **Apoptosis**, 15(4):439-49, 2010.

128. JP-Wang, TF-Huang, HL-Ma, **SC-Hung**, TH-Chen, CL-Liu. Manipulation under anaesthesia for frozen shoulder in patients with and without non-insulin dependent diabetes mellitus. **Int Orthop**. 34(8):1227-32, 2010. (

129. HY-Lin, CC-Tsai, LL-Chen, SH-Chiou, YJ-Wang*, **SC-Hung*** Fibronectin and laminin promote differentiation of human mesenchymal stem cells into insulin producing cells through activating Akt and ERK. **J Biomed Sci.** 17:56, 2010.

130. CC-Tsai, CL-Chen, DC-Yang, HC-Liu, YT-Lee, HW-Wang, LT-Hou*, **SC-Hung***. Overexpression of hTERT increases stemness and decreases spontaneous differentiation in a human mesenchymal stem cell line. **J Biomed Sci**. 17:64, 2010

131. Hsu-CP, Wang-JS, **SC-Hung**, Lai-ST, Weng-ZC, C.-J Ray-Chiu. Human Sternal Mesenchymal Stem Cells: Isolation, Characterization and Cardiomyogenic Differentiation. **Acta Cardiol Sin** 26:242-52. 2010

132. ER-Chiang, JP-Wang, ST-Wang, **SC-Hung**, HL-Ma, CL-Liu, TH-Chen. Arthroscopic posteroinferior capsular plication and rotator interval closure after Bankart repair in patients with traumatic anterior glenohumeral instability-A minimum follow-up of 5 years. **Injury**. 41(10):1075-8, 2010.

133. CC-Tsai, YP-Lei, TL-Yew, **SC-Hung***. Hypoxic culture of mesenchymal stem cells. **Formosan Journal of Medicine** 2010, 14:517-525. (review)

134. YJ-Lee, **SC-Hung*,** MC-Chu. Involvement of Notch1 inhibition in serum-stimulated glia and oligodendrocyte differentiation from human mesenchymal stem cells. **Stem Cells and Cloning: Advances and Applications.** 2010:3 165–173, 2010.

135. KM-Fang, JK-Chen, **SC-Hung**, MC-Chen, YT-Wu, TJ-Wu, HI-Lin, CH-Chen, Cheng, CS-Yang, SF-Tzeng. Effects of combinatorial treatment with pituitary adenylate cyclase activating peptide and human mesenchymal stem cells on spinal cord tissue repair. **PLoS ONE**. 5:e15299, 2010.

136. WH-Chen, MT-Lai, AT-Wu, CC-Wu, Gelovani JG, CT-Lin, **SC-Hung**, WT-Chiu, WP-Deng. In vitro stage-specific chondrogenesis of mesenchymal stem cells committed to chondrocytes. **Arthritis Rheum**. 60(2):450-459, 2009.

137. **SC-Hung*.** Current concepts of mesenchymal stem cells: Selfrenewal, differentiation and support of regeneration. **Formosan Journal of Medicine** 2009, 13:477-482. (review)

138. HK-Chiang, FY-Peng, **SC-Hung***, YC-Feng. In situ Raman Spectroscopic Monitoring of Hydroxyapatite during the Differentiation of Human Mesenchymal Stem Cells to Osteoblasts. **Journal of Raman Spectroscopy.** 40:546-549, 2009.

139. PC-Tsai, TW-Fu, YM-Chen, T-L-Ko, TH-Chen, YH-Shih, **SC-Hung***, YS-Fu*. The Therapeutic Potential of Human Umbilical Mesenchymal Stem Cells from Wharton's Jelly in the Treatment of Rat Liver Fibrosis. **Liver Transplantation.** 15:484-495, 2009.

140. ER-Chiang, HL-Ma, ST-Wang, **SC-Hung**, TH-Chen. Arthroscopic treatment for pigmented villonodular synovitis of the shoulder associated with massive rotator cuff tear. **Arthroscopy**. 25(7):716-21, 2009.

141. YG-Chen, MW-Lee, YH-Tu, **SC-Hung**, YJ-Wang. Surface coupling of long-chain hyaluronan to the fibrils of reconstituted type II collagen. **Artif Cells Blood Substit Immobil Biotechnol**. 37:222-6, 2009.

142. CF-Chang, KH-Hsu, SH-Chiou, LT-Ho, YS-Fu, **SC-Hung***. Fibronectin and pellet suspension culture promote differentiation of human mesenchymal stem cells into insulin producing cell. **Journal of Biomedical Material Research A.** 15;86(4):1097-105, 2008.

143. DC-Yang, HJ-Tsay, SY-Lin, MJ-Li, MT-Lin, **SC-Hung*.** cAMP/PKA Regulates Osteogenesis, Adipogenesis and Ratio of RANKL/OPG mRNA Expression in Mesenchymal Stem Cells by Suppressing Leptin. **PLoS ONE**. 3(2):e1540, 2008

144. JW-Wu, LC-Lin, **SC-Hung**, CH-Lin, CW-Chi, TH-Tsai. Hepatobiliary excretion of silibinin in normal and liver cirrhotic rats. **Drug Metabolism and Disposition.** 36(3):589-96, 2008.

145. CF-Yang, KY-Chou, ZC-Weng, **SC-Hung**, ST-Lai, CP-Hsu, JS-Wang. Cardiac myocyte progenitors from adult hearts for myocardial regenerative therapy. **J Chin Med Assoc.** 71(2):79-85, 2008.

146. SH-Chiou, CL-Kao, YW-Chen, CS-Chien, **SC-Hung**, JF-Lo, YJ-Chen, HH-Ku, MT-Hsu, TT-Wong. Identification of CD133-positive radioresistant cells in atypical teratoid/ rhabdoid tumor. **PLoS ONE**. 3(5):e2090, 2008.

147. YC-Chen, HS-Hsu, YW-Chen, TH-Tsai, CK-How, CY-Wang, **SC-Hung**, YL-Chang, ML-Tsai, YY-Lee, HH-Ku, SH-Chiou. Oct-4 expression maintained cancer stem-like properties in lung cancer-derived CD133-positive cells. **PLoS ONE**. 2008 3(7):e2637, 2008

148. CH-Chang, HY-Lin, HW-Fang, ST-Loo, **SC-Hung**, YC-Ho, CC-Chen FH-Lin, HC-Liu. Chondrogenesis from immortalized human mesenchymal stem cells: comparison between collagen gel and pellet culture methods. **Artif Organs**. 32(7):561-6, 2008.

149. TF-Huang, YT-Chen, TH-Yang, LL-Chen, SH-Chiou, TH-Tsai, CCTsai, MH-Chen, HL-Ma, **SC-Hung***. Isolation and characterization of mesenchymal stromal cells from human anterior cruciate ligament. **Cytotherapy**. 10(8):806-14, 2008.

150. JP-Wang, TF-Huang, **SC-Hung**, HL-Ma, JG-Wu, TH-Chen. Comparison of idiopathic, post-trauma and post-surgery frozen shoulder after manipulation under anesthesia. **International Orthopaedics**. 31(3):333-7, 2007

151. CF-Chang, MW-Lee, PY-Kuo, YJ-Wang YH-Tu, **SC-Hung***. Three-dimensional collagen fiber remodeling by mesenchymal stem cells requires the integrin-matrix interaction. **Journal of Biomedical Material Research A.** 80:466-474, 2007.

152. TH-Chen, WM-Chen, KH-Hsu, CD-Ku, **SC-Hung***. Sodium butyrate activates ERK to regulate differentiation of mesenchymal stem cells. **Biochemical and Biophysical Research Communications.** 355:913-918, 2007.

153. **SC-Hung*,** R. R. Pochampally, SC-Hsu, C. Sanchez, J. SC-Chen, Spees, D. J. Prockop. Short-term exposure of mesenchymal stem cells (MSCS) to low oxygen increases their expression of CX3CR1 and CXCR4 and their engraftment in vivo. **PLoS ONE**, e416, 2007.

154. **SC-Hung*,** RR Pochampally, SC-Chen, SC-Hsu, and DJ Prockop**.** Angiogenic Effects of Human Multipotential Stromal Cells (MSCs). Conditioned Medium Activates the PI3K-Akt Pathway in Hypoxic Endothelial Cells to Inhibit Apoptosis, Increase Survival, and Stimulate Angiogenesis. **Stem Cells**. 25:2363-2370, 2007.

155. W-Wu, LC-Lin, **SC-Hung**, CW-Chi, TH-Tsai. Analysis of silibinin in rat plasma and bile for hepatobiliary excretion and oral bioavailability application. **Journal of Pharmaceutical and Biomedical Analysis**. 45(4):635-41, 2007.

156. **SC**-Hsieh, **FF**-Wang, **CS**-Lin, **YJ**-Chen, SC**-Hung**, **YJ**-Wang. The inhibition of osteogenesis with human bone marrow mesenchymal stem cells by CdSe/ZnS quantum dot labels. **Biomaterials**. 27:1656-1664, 2006.

157. **SC-Hung*,** PY-Kuo, CF-Chang, TH-Chen, Larry LT-Ho. Alpha-smooth muscle actin expression and structure integrity in chondrogenesis of human mesenchymal stem cells. **Cell Tissue Research**. 324:457-466, 2006.

158. D-Lai, HL-Ma, **SC-Hung**, TH-Chen,Wu JJ-Wu. Open Bankart repair with suture anchors for traumatic recurrent anterior shoulder instability: comparison of results between small and large Bankart lesions. **Knee Surgery Sports Traumatology Arthroscopy**. 14:82-87, 2006.

159. Mien-Sheng Chu, Ching-Fang Chang, Chuan-Ching Yang, Yi-Chi Bau, Larry Low-Tone

Ho **SC-Hung*** . Signalling pathway in the induction of neurite outgrowth in human mesenchymal stem cells. **Cellular Signalling**. 18:519-530, 2006.

160. SC-Hsieh, FF-Wang, **SC-Hung**, YJ-Chen, YJ-Wang. The internalized CdSe/ZnS quantum dots impair the chondrogenesis of bone marrow mesenchymal stem cells. **Journal of Biomedical Material Research B.** 79:95-101, 2006.

161. HL-Ma, WJ-Jiae, CH-Huang, ST-Wang, TH-Chen, CK-Cheng, **SC-Hung*.** Thermal effects after anterior cruciate ligament shrinkage using radiofrequency technology: a porcine cadaver study. **Knee Surgery Sports Traumatology Arthroscopy**. 13:619-624, 2005.

162. M-C Chang, **SC-Hung**, Winby Y-K Chen, T-L Chen, C-F Lee, H-C Lee, K-L Wang, C-C Chiou, Y-H Wei. Accumulation of Mitochondrial DNA with 4977-bp Deletion in Knee Cartilage - An Association with Idiopathic Osteoarthritis. **Osteoarthritis & Cartilage**. 13:1004-1011, 2005.

163. HL-Ma, TH-Chen, Larry LT- Ho, **SC-Hung*.** Neocartilage from Human Mesenchymal Stem Cells in Alginate- Implied timing of transplantation. **Journal of Biomedical Material Research A**. 74:439-46, 2005.

164. **SC-Hung**, WP-Deng, WK-Yang, et al. Mesenchymal stem cell targeting of microscopic tumors and tumor stroma development monitored by noninvasive in vivo positron emission tomography imaging. **Clinical Cancer Research**. 11:7749-7756, 2005.

165. **SC-Hung*,** CF-Chang, RJ-Lin, DM-Yang, JS-Wang, Larry LT-Ho, Wen K-Yang. Immortalization without Neoplastic Transformation of Human Mesenchymal Stem Cells by Transduction with HPV16 E6E7 Genes. **International Journal of Cancer** 110:313-319, 2004.

166. HL-Ma**,** TH-Chen, **SC-Hung***. Development of a new method in promoting fracture healing: multiple cryopreserved bone marrow injections using a rabbit model. **Archive of Orthopaedic & Trauma Surgery.** 124:448-454, 2004.

167. **SC-Hung*,** CF-Chang, HL-Ma, TH-Chen, Larry LT-Ho. Gene expression profiles of early adipogenesis in human mesenchymal stem cells. **Gene.** 340:141-150, 2004.

168. H-Cheng, MJ-Tsai, **SC-Hung**, SF-Tzeng. Neuronal morphological change of size-sieved stem cells induced by neurotrophic stimuli. **Neuroscience Letter.** 367:23-28, 2004.

169. CY-Chang, Hondar HT-Wu, TF-Huang, HL-Ma**,** **SC-Hung**. Imaging evaluation of meniscal injury of the knee joint; A comparative MR imaging and arthroscopic study. **Clinical Imaging.** 2004, 28:372-6.

170. HL-Ma, **SC-Hung**, ST-Hung, MC-Chang, TH-Chen. Osteochondral autografts transfer for post-traumatic osteochondral defect of the knee-2 to 5 years follow-up. **Injury**. 2004 Dec;35(12):1286-92.

171. **SC-Hung***, Cheng-Yi Lu, Song-Kun Shyue, Hwa-Chang Liu, Larry Low-Tone Ho. Lineage Differentiation-Associated Loss of Adenoviral Susceptibility and Coxsackie-Adenovirus Receptor Expression in Human Mesenchymal Stem Cells. **Stem Cells** 22:1321-1329, 2004.

172. HS-Wang, **SC-Hung**, ST-Pong, CC-Huang, HM-Wei, Y-Kuo, YS-Fu, MC-Lai, CC-Chen. Mesenchymal Stem Cells in Wharton's Jelly of the Human Umbilical Cord. **Stem Cells** 22:1330-

1337, 2004.

173. HL-M, **SC-Hung***, SY-Lin, YL-Chen, WH-Lo: Chondrogenesis of Human Mesenchymal Stem Cells Encapsulated in Alginate Beads. **Journal of Biomedical Material Research A** 64:273-281, 2003.

174. HL-M, **SC-Hung**, ST-Wang, TH-Chen: The reoperation of failed rotator cuff repairs. **Journal Chinese Medical Association** 66:96-102, 2003.

175. **SC-Hung,** CK-Huang, CC-Chiang, TH-Chen, WM-Chen, WH-Lo. Monteggia type I equivalent lesion: diaphyseal ulna and radius fractures with a posterior elbow dislocation in an adult. **Archives of Orthopaedic & Trauma Surgery**. 2003 123(6):311-3.

176. **SC-Hung*.** Research and applications in mesenchymal stem cells. **Bioindustry** 2003, 14: (review)

177. **SC-Hung***, NJ-Chen, SL-Hsieh, H-Li, HL-Ma, WH-Lo: Isolation and characterization of size-sieved stem cells from human bone marrow. **Stem Cells** 20:249-258, 2002.

178. **SC-Hung***, HL-Ma, TF-Huang, WH-Lo: Chondrogenesis in vitro and in vivo using human mesenchymal stem cells cultured in alginate beads. **Journal of Orthopaedic Surgery ROC** 19:16-22, 2002.

179. **SC-Hung***, Henrich Cheng, CY-Pan; May J-Tsai, LS-Kao, HL-Ma: In vitro differentiation of size-sieved stem cells into electrically active neural cells. **Stem Cells** 20:522-529, 2002.

180. **SC-Hung*.** Tissue engineering in cartilage. **Bioindustry** 2001, 12:261-265.

181. S-Jinno, **SC-Hung**, H-Okayama: Cell cycle start from quiescence controlled by tyrosine phosphorylation of Cdk4. **Oncogen** 18:565-571, 1999.

182. S-Jinno, **SC-Hung**, H-Yamamoto, J-Lin, A-Nagata, H-Okayam: Oncogenic stumulation recruits cyclin-dependent kinase in the cell cycle start in rat fibroblast. **Proceedings of National Academy of Sciences of the United States America** 96:13197-13202, 1999.

183. **SC-Hung***, K-Nakamura, T-Matsushita, H-Okazaki, R-Shiro, K-Mamada, K-Tanaka, W-Ou, T-kurokaw: Influence of femoral lengthening on hip joint space in post-traumatic femoral shortening. **Acta Orthopaedica Scandinavica** 68:541-544, 1997.

184. **SC-Hung***, K-Nakamura, R-Shiro, K-Tanaka, H-Kawahara, T-kurokawa: Effects of continuous distraction on cartilage in a moving joint: an investigation on adult rabbits. **Journal of Orthopaedic Research** 15:381-390, 1997.

185. **SC-Hung**: Effects of unloading with motion on articular cartilage- an experimental study in adult rabbits. Ph.D. **Thesis, The University of Tokyo**, 1997.

186. K-Tanaka, T-Kurokawa, K-Nakamura, T-Matsushida, S-Horinaka, I-Kubasa, H-Okazaki, R-Shiro, W-Ou, **SC-Hung**: Callus formation in femur and tibia during leg lengthening. **Acta Orthopaedica Scandinavica** 67:158-160, 1996.

187. **SC-Hung***, T-kurokawa, K-Nakamura, T-Matsushita, R-Shiro, H-Okazaki: Narrowing of the joint space of the hip after traumatic shortening of the femur. **Journal of Bone & Joint Surgery**

78B:718-721, 1996.

188. W-Ou, T-Kurokawa, K-Nakamura, T-Matsushida, R-Murashima, I-Kusaba, H-Okazaki, K-Mamada, R-Shiro, K-Tanaka, M-Takahashi, **SC-Hung**: Prevention of equinus deformity by brace and physiotherapy during leg lengthening. **Journal of Physical Medicine** 6:164-167, 1995.

189. H-Okazaki, T-Kurokawa, K-Nakamura, K-Mamada, R-Shiro, K-Tanaka, W-Ou, **SC-Hung**, R-Murasima, I-Kusaba: Influence of length gain on axial deviation in tibial lengthening by callotasis method. **Nippon External Fixator Research** 6:201-202, 1995. (Japanese Journal)

190. **SC-Hung**, T-kurokawa, K-Nakamura, T-Matsushita, R-Shiro, H-Okazaki: Narrowing of the hip joint space in patients with posttraumatic shortening of the femur. **Eastern Japanese Orthopaedic Journal** 7:47-47, 1995. (Japanese Journal)

191. CL-Yu, KL-Chang, **SC-Hung**, BN-Chiang, SH-Han, SR-Wang: Defective helper T cell function in IgM rheumatoid factor synthesis in patients with ankylosing spondylitis. **Scandinavian journal of rheumatology** 18:43-49, 1989.

Books:

1. Mesenchymal stromal cells as tumor stromal modulators. Edited by Marcela F. Bolontrade and Mariana G. Garcia. Chapter 12: Mesenchymal stromal cells and tumor angiogenesis.
2. The Biology and Therapeutic Application of Mesenchymal Cells. Edited by Kerry Atkinson.

Patents:

	Title of patent	Nation	Application No.	Status
方法	Novel method for MSC isolation	Taiwan	089121676 481672	Issued
	Method of isolating Mesenchymal Stem Cells	USA	09/761,893 US 2002/0045260 A1	applied
	低密度合併低氧培養擴增間質幹細胞的方法	Taiwan	098142403 I428446	Issued
	Method for Expanding Mesenchymal Stem Cells in Low density and Hypoxic Culture	USA	US8900860	Issued
	Preparation of cell transplant	EU	12199521.1 EP 2 612 907 A1	applied
	Method for Reducing Rejection of Allogeneic Cell Transplant	USA	13/729,551 US 2013/0226312 A1	applied
	细胞移植物的制备	China	201210591807.8 CN 103194426 A	Issued

	細胞移植物之製備	Taiwan	102100273 TW 201329237 A1	Issued
適應症	MSCs for Treating Musculoskeletal Disorder	US provisional	62/118,827	applied
	MSCs for Treating Atherosclerotic Lesions	US provisional	62/068,491	applied
	MSCs for Treating Immune-mediated Hepatic Injury	US provisional	62/099,736	applied
癌症	Method for inhibiting survival, tumorigenesis and metastasis of cancer cells/cancer stem cells	USA		applied
	抑制癌細胞及/或癌症幹細胞之存活、癌化及轉移之方法	Taiwan		applied