


# Curriculum Vitae

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<p><b>Education</b></p>	<ul style="list-style-type: none"> <li>● Doctor of Philosophy, The Institute of Basic Medical Sciences, National Cheng kung University</li> <li>● Master of Science, The Institute of Molecular Biology, National Chung Hsing University</li> <li>● Bachelor of Science, Department of Biology, Tunghai University</li> </ul>
<p><b>Professional Experiences</b></p>	<ul style="list-style-type: none"> <li>● Postdoctoral Fellow, College of Medicine, National Cheng kung University, Taiwan</li> <li>● Assistant Professor, Department of Physiology, College of Medicine, Kaohsiung Medical University, Taiwan, 2007~2012</li> <li>● Associate Professor, Department of Physiology, College of Medicine, Kaohsiung Medical University, Taiwan, 2012~2016</li> <li>● Associate Professor, Graduate Institute of Medicine, College of Medicine, Kaohsiung Medical University, 2016~2019</li> <li>● Professor, Graduate Institute of Medicine, College of Medicine, Kaohsiung Medical University, 2019~Present</li> </ul>
<p><b>Specialty</b></p>	<ul style="list-style-type: none"> <li>● Stem cell biology</li> <li>● Translational medicine</li> <li>● Development and Regeneration medicine of Musculoskeletal system</li> <li>● Cell signal transduction</li> <li>● Discoidin domain receptor (DDR) function</li> <li>● Transgenic mice</li> <li>● Regeneration medicine of stem cells</li> </ul>
<p><b>Research Interests</b></p>	<ol style="list-style-type: none"> <li>1. Study the mechanisms of mesenchymal stem cells in the regenerative medicine of skeletomuscular system.</li> <li>2. Study the effect of physical therapy in the regenerative medicine of skeletomuscular system.</li> <li>3. Study the roles and mechanisms of Discoidin domain receptors by using transgenic mice.</li> <li>4. Development and Regeneration medicine of musculoskeletal system.</li> </ol>

## Publications

1. 2023 Lin Kang, Ai-Lun Yang, Chao-Han Lai, Tsan-Ju Chen, Sung-Yen Lin, Yan-Hsiung Wang, Chau-Zen Wang, Edward M. Conway, Hua-Lin Wu, Mei-Ling Ho, Je-Ken Chang, Chung-Hwan Chen\* and Tsung-Lin Cheng\*. Chondrocyte thrombomodulin protects against osteoarthritis. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. 24(11): 9522.
2. 2022 Hsin-Chiao Chou<sup>†</sup>, Sung-Yen Lin<sup>†</sup>, Liang-Yin Chou, Mei-Ling Ho, Shu-Chun Chuang, Tsung-Lin Cheng, Lin Kang, Yi-Shan Lin, Yan-Hsiung Wang, Chun-Wang Wei, Chung-Hwan Chen\* and Chau-Zen Wang\*. Ablation of Discoidin Domain Receptor 1 Provokes an Osteopenic Phenotype by Regulating Osteoblast/Osteocyte Autophagy and Apoptosis. Biomedicines. 10(9):2173. (通訊作者)
3. 2021 Yi-Hsiung Lin<sup>†</sup>, Liang-Yin Chou<sup>†</sup>, Hsin-Chiao Chou, Chung-Hwan Chen, Lin Kang, Tsung-Lin Cheng and Chau-Zen Wang\*. The Essential Role of Stathmin in Myoblast C2C12 for Vertical Vibration-Induced Myotube Formation. Biomolecules. 11:1583. (通訊作者)
4. 2020 Liang-Yin Chou, Chung-Hwan Chen, Shu-Chun Chuang, Tsung-Lin Cheng, Yi-Hsiung Lin, Hsin-Chiao Chou, Yin-Chih Fu, Yan-Hsiung Wang, Chau-Zen Wang\*. Discoidin domain receptor 1 regulates Runx2 during osteogenesis of osteoblasts and promotes bone ossification via phosphorylation of p-38. International Journal of Molecular Sciences. 21(19); E7210. (通訊作者)
5. 2020 Hsin-Chiao Chou, Chung-Hwan Chen, Liang-Yin Chou, Tsung-Lin Cheng, Lin Kang, Shu-Chun Chuang, Yi-Shan Lin, Mei-Ling Ho, Yan-Hsiung Wang, Sung-Yen Lin \*, Chau-Zen Wang\*. Discoidin domain receptors 1 inhibition alleviates osteoarthritis via enhancing autophagy. International Journal of Molecular Sciences. 21; 6991. (通訊作者)
6. 2020 Liang-Yin Chou<sup>#</sup>, Chung-Hwan Chen<sup>#</sup>, Yi-Hsiung Lin, Sung-Yen Lin, Yin-Chi Fu, Je-Ken Chang, Mei-Ling Ho\*, Chau-Zen

Wang\*. Discoidin domain receptor 1 regulates endochondral ossification through terminal differentiation of chondrocytes. *FASEB Journal*. 34(4):5767-5781. (通訊作者)

7. 2019 Pei-Lin Shao, Shun-Cheng Wu, Zih-Yin Lin, Mei-Ling Ho, Chung-Hwan Chen and Chau-Zen Wang\*. Alpha-5 Integrin Mediates Simvastatin-Induced Osteogenesis of Bone Marrow Mesenchymal Stem Cells. *International Journal of Molecular Sciences*. 24;20(3). (通訊作者)
8. 2019 Chen ST, Kang L, Chau-Zen Wang, Huang PJ, Huang HT, Lin SY, Chou SH, Lu CC, Shen PC, Lin YS, Chen CH \*. (-)-Epigallocatechin-3-Gallate Decrease Osteoclastogenesis via Modulation of RANKL and Osteoprotegrin. *Molecules*. 24(1):156.
9. 2019 Lin SY, Kang L, Chen JC, Chau-Zen Wang, Huang HH, Lee MJ, Cheng TL, Chang CF, Lin YS, Chen CH \*. (-)-Epigallocatechin-3-gallate (EGCG) enhances healing of femoral bone defect. *Phytomedicine*. 55: 165-171.
10. 2018 Chau-Zen Wang, Yan-Hsiung Wang, Che-Wei Lin, Tien-Ching Lee, Yin-Chih Fu, Mei-Ling Ho, Chih-Kuang Wang\*. Combination of a bioceramic scaffold and simvastatin nanoparticles as a synthetic alternative to autologous bone grafting. *International Journal of Molecular Sciences*. 9(12), 4099. (第一作者)
11. 2018 Chia-Hsin Chen, Yi-Hsiung Lin, Chung-Hwan Chen, Yan-Hsiung Wang, Ming-Long Yeh, Tsung-Lin Cheng and Chau-Zen Wang\*. Transforming growth factor beta 1 mediates low-frequency vertical vibration enhanced tenomodulin and type I collagen for improving the stiffness of rat Achilles tendon. *PLOS ONE*. 13(10): e0205258 (通訊作者)
12. 2018 Zong-Sheng Wu, Jing-Jou Lo, Sheng-Hua Wu, Chau-Zen Wang, Rong-Fu Chen, Su-Shin Lee, Chee-Yin Chai, Shu-Hung Huang\*. Early Hyperbaric Oxygen Treatment Attenuates Burn-Induced Neuroinflammation by Inhibiting the Galectin-3-Dependent Toll-Like Receptor-4 Pathway in a Rat Model. *International Journal of*

Molecular Sciences: 9(8), 2195.

13. 2018 Chau-Zen Wang; Rajalakshmanan Eswaramoorthy; Tzu-Hsiang Lin; Chung-Hwan Chen; Yin-Chih Fu; Chih-Kuang Wang; Shun-Cheng Wu; Gwo-Jaw Wang; Je-Ken Chang<sup>#\*</sup>; Mei-Ling Ho<sup>#\*</sup>. Enhancement of chondrogenesis of adipose-derived stem cells in HA-PNIPAAm-CL hydrogel for cartilage regeneration in rabbits. Scientific Reports 8:10526| DOI:10.1038/s41598-018-28893. (第一作者)
14. 2018 Sung-Yen Lin, Lin Kang, Chau-Zen Wang, Han Hsiang Huang, Tsung-Lin Cheng Cheng, Hsuan-Ti Huang, Mon-Juan Lee, Yi-Shan Lin, Mei-Ling Ho, Gwo-Jaw Wang, Chung-Hwan Chen\*. (-)-Epigallocatechin-3-gallate (EGCG) enhance osteogenic differentiation of human bone marrow mesenchymal stem cells. Molecules. 23(12), 3221.
15. 2018 Shih-Tse Chen, Lin Kang, Chau-Zen Wang, Peng-Ju Huang, Hsuan-Ti Huang, Sung-Yen Lin, Shih-Hsiang Chou, Cheng-Chang Lu, Po-Chih Shen, Yi-Shan Lin, Chung-Hwan Chen\*. (-)-Epigallocatechin-3-gallate decrease osteoclastogenesis via modulation of RANKL and osteoprotegrin. Molecules. 24, 156.
16. 2018 Sung-Yen Lin, Lin Kang, Jian-Chih Chen, Chau-Zen Wang, Han-Hsiang Huang, Mon-Juan Lee, Tsung-Lin Cheng, Chi-Fen Chang, Yi-Shan Lin, Chung-Hwan Chen\*. (-)-Epigallocatechin-3-gallate (EGCG) enhances healing of femoral bone defect. Phytomedicine (55): 165-171.
17. 2017 Yi-Hsiung Lin, Chung-Yi Chen, Liang-Yin Chou, Chung-Hwan Chen, Lin Kang, Chau-Zen Wang\*. Enhancement of bone marrow-derived mesenchymal stem cell osteogenesis and new bone formation in rats by obtusilactone A. International Journal of Molecular Sciences 18(11). 2422. (通訊作者)
18. 2017 Chung-Hwan Chen, Tsang-Hai Huang, Tsung-Lin Cheng, Chi-Fen Chang, Chau-Zen Wang, Meng-Hsing Wu, and Lin Kang\*. Exercise training ameliorates glucosamine-induced insulin resistance

in ovariectomized rats. Menopause: The Journal of the North American Menopause Society. Vol. 24, No. 6, pp. 617-623

19. 2016 Tsung-Lin Cheng, Chao-Han Lai, Shyh-Jou Shieh, Yin-Bo Jou, Jwu-Lai Yeh, Ai-Lun Yang, Yan-Hsiung Wang, Chau-Zen Wang, Chung-Hwan Chen, Guey-Yueh Shi, Mei-Ling Ho\*, Hua-Lin Wu\* Myeloid thrombomodulin lectin-like domain inhibits osteoclastogenesis and inflammatory bone loss, Scientific Reports 6:28340
20. 2015 Shun-Cheng Wu, Hsu-Feng Hsiao, Mei-Ling Ho, Yung-Li Hung, Je-Ken Chang, Gwo-Jaw Wang, Chau-Zen Wang\*. Suppression of discoidin domain receptor 1 expression enhances the cell survival and chondrogenesis of adipose-derived stem cells. Am J Physiol Cell Physiol. 308: C685–C696. (通訊作者)
21. 2014. Chau-Zen Wang, Yi-Jen Chen, Yan-Hsiung Wang, Ming-Long Yeh, Mao-Hsiung Huang, Mei-Ling Ho, Jen-I Liang and Chia-Hsin Chen\*. Low-level laser irradiation improves functional recovery and nerve regeneration in sciatic nerve crush rat injury model. PLOS ONE. 9(8): e103348 (第一作者)
22. 2014. Chau-Zen Wang#, Yin-Chih Fu#, Yan-Hsiung Wang, Po-Len Liu, Shih-Ciang Jian, Mei-Ling Ho, Chih-Kuang Wang\*. Synthesis and characterization of cationic polymeric nanoparticles as simvastatin carriers for enhancing the osteogenesis of bone marrow mesenchymal stem cells. Journal of Colloid and Interface Science. 432C:190-199. (# 共同第一作者)
23. 2014 Chih-Hsiang Chang, Chau-Zen Wang, Je-Ken Chang, Che-Yu Hsu, Mei-Ling Ho\*. The Susceptive Alendronate-Treatment Timing and Dosage for Osteogenesis Enhancement in Human Bone Marrow-Derived Stem Cells Plos One. 9(8): e105705.
24. 2014. Chia-Hsin Chen, Chau-Zen Wang, Yan-Hsiung Wang, Wei-Ting Liao, Yi-Jen Chen, Chang-Hung Kuo, Hsuan-Fu Kuo\* and Chih-Hsing Hung\*. Effects of Low-Level Laser Therapy on M1-related Cytokine Expression in Monocytes via Histone

Modification. Mediators of Inflammation. 2014(2014): 625048

25. 2014. Yi-Jen Chen, Yan-Hsiung Wang, Chau-Zen Wang, Mei-Ling Ho, Po-Lin Kuo, Mao-Hsiung Huang, Chia-Hsin Chen\*. Effect of low level laser therapy on chronic compression of the dorsal root ganglion. Plos One. 9(3): e89894.
26. 2014. Yan-Hsiung Wang, Jyun-Yi Wu, Pei-Jung Chou, Chung-Hwan Chen, Chau-Zen Wang, Mei-Ling Ho, Je-Ken Chang, Chia-Hsin Chen\*, Ming-Long Yeh\*. Characterization and evaluation of the differentiation ability of human adipose-derived stem cells growing in scaffold-free suspension culture. Cytotherapy. 16(4): 485-95.
27. 2013. Yin-Chih Fu, Chung-Hwan Chen, Chau-Zen Wang, Yan-Hsiung Wang, Je-Ken Chang, Gwo-Jaw Wang, Mei-Ling Ho\*, Chih-Kuang Wang\*, Preparation of porous bioceramics using reverse thermo-responsive hydrogels in combination with rhBMP-2 carriers: In Vitro and in vivo evaluation. Journal of the Mechanical Behavior of Biomedical Materials. 27: 64-76.
28. 2013. Jyun-Yi Wu, Chia-Hsin Chen, Chau-Zen Wang, Mei-Ling Ho, Ming-Long Yeh\*, Yan-Hsiung Wang\*. Low-power laser irradiation suppresses inflammatory response of human adipose-derived stem cells by modulating intracellular cyclic AMP level and NF- $\kappa$ B activity. PLOS ONE. 8(1): e54067.
29. 2013. Hui-Min Wang, Yi-Ting Chou, Zhi-Hong Wen, Chau-Zen Wang, Chun-Hong Chen, Mei-Ling Ho\*. Novel biodegradable porous scaffold applied to skin regeneration. PLOS ONE. 8(6): e56330.
30. 2013. Yan-Hsung Wang, Yin-Chih Fu, Hui-Chi Chiu, Chau-Zen Wang, Shao-Ping Lo, Mei-Lin Ho, Po-Len Liu, Chih-Kuang Wang\*. Cationic nanoparticles with quaternary ammonium functionalized PLGA-PEG-based copolymers for potent gene transfection. Journal of Nanoparticle Research. 15(1):2077-2092.
31. 2013. Chung-Hwan Chen, Yi-Shan Lin, Yin-Chih Fu, Chih-Kuang Wang, Shun-Cheng Wu, Gwo-Jaw Wang, Rajalakshmanan

Eswaramoorthy, Yan-Hsiung Wang, Chau-Zen Wang, Yao-Hsien Wang, Sung-Yen Lin, Je-Ken Chang, Mei-Ling Ho\*. Electromagnetic fields enhance chondrogenesis of human adipose-derived stem cells in a chondrogenic microenvironment in vitro. Journal of Applied Physiology. 114(5): 647-655.

32. 2012. Jyun-Yi Wu, Yan-Hsiung Wang, Gwo-Jaw Wang, Mei-Ling Ho, Chau-Zen Wang, Ming-Long Yeh, Chia-Hsin Chen\*. Low-Power GaAlAs Laser Irradiation Promotes the Proliferation and Osteogenic Differentiation of Stem Cells via IGF1 and BMP2. PLoS One. 7(9): e44027.
33. 2011. Chau-Zen Wang, Mei-Ling Ho, Wen-Cheng Chen, Chien-Chih Chiu, Yung-Li Hung, Chih-Kuang Wang\*, Shun-Cheng Wu. Oct. Characterization and enhancement of chondrogenesis in porous hyaluronic acid-modified scaffolds made of PLGA(75/25) blended with PEI-grafted PLGA(50/50). Materials Science and Engineering C -Mater. Biol. Appl, 31(7):1343-1351. (第一作者)
34. 2010. Chau-Zen Wang, Shih-Mao Chen, Chung-Hwan Chen, Chih-Kuang Wang, Gwo-Jaw Wang, Je-Ken Chang\* and Mei-Ling Ho\*. The Effect of the Local Delivery of Alendronate on Human Adipose-Derived Stem Cell-Based Bone Regeneration. Biomaterials. 31: 8674-8683. (第一作者)
35. 2010. Chau-Zen Wang, Gwo-Jaw Wang, Mei-Ling Ho, Yan-Hsiung Wang, Yen-Hui Chang, and Chia-Hsin Chen\*. Low-magnitude vertical vibration enhances myotube formation in C2C12 myoblasts. Journal of Applied Physiology. 109(3): 840-848. (第一作者)
36. 2010. Eswaramoorthy R., C.K. Wang, W.C. Chen, M.J. Tang, M.L. Ho, C.C. Hwang, H.M. Wang and Chau-Zen Wang\*. Aug. DDR1 regulates the stabilization of cell surface E-cadherin and E-cadherin-mediated cell aggregation. J Cell Physiol. 224: 387-397. (通訊作者)
37. 2010. Chang Y.H#, Chau-Zen Wang#, C.C. Chiu, L.Y. Chuang, C.C. Hwang. Contributions of active site residues to cofactor binding and

catalysis of 3 $\alpha$ -hydroxysteroid dehydrogenase/carbonyl reductase. *Biochimica et Biophysica Acta-Proteins & Proteomics*. 1804(1): 235-241. (#:Equal contribution of the first author) (共同第一作者)

38. 2010. Hui-Min Wang\*, Chung-Yi Chen, Chun-Yen Chen, Mei-Ling Ho, Yi-Ting Chou, Hou-Chien Chang, Chih-Hung Lee, Chau-Zen Wang, I-Ming Chu. (-)-N-Formylanonaine from *Michelia alba* as human tyrosinase inhibitor and antioxidant. *Bioorganic & Medicinal Chemistry*, 18(14): 5241-5247.
39. 2010. C. K. Wang, Chau-Zen Wang, J.C. Wang, C.C. Hung, W.Y. Li, and W.C. Chen\*. Jan. Preparation and Characterization of Calcium Phosphate Deposited on Gold Nanoparticles. *Journal of Non-Crystalline Solids*. 356:927-932.
40. 2009. Chau-Zen Wang., Y.C. Yeh, and M.J. Tang\*. Aug. DDR1/E-cadherin complex regulates the activation of DDR1 and cell spreading. *Am. J. Physiol.-Cell Physiol*. 297(2): C419-429. (第一作者)
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42. 2008. Wei W.C., Y.C. Hsu, W.T. Chiu, Chau-Zen Wang, C.M. Wu, Y.K. Wang, M.R. Shen and M.J. Tang\*. Mar. Low substratum rigidity of collagen gel promotes ERK phosphorylation via lipid raft to augment cell migration. *J Cellular Biochem*. 103(4): 1111–1124.
43. 2006. Chau-Zen Wang., H.W. Su, Y.C. Hsu, M.R. Shen, and M.J. Tang\*. A discoidin domain receptor 1/SHP-2 signaling complex inhibits  $\alpha$ 2 $\beta$ 1-integrin-mediated signal transducers and activators of transcription 1/3 activation and cell migration. *Mol Biol Cell*. 17:2839-52. (第一作者)
44. 2005. Chau-Zen Wang., Y.M. Hsu, and M.J. Tang\*. Function of discoidin domain receptor I in HGF-induced branching tubulogenesis



	<p>of MDCK cells in collagen gel. J Cell Physiol. 203:295-304. (第一作者)</p> <p>45. 2003. Wang, Y.K., Y.H. Wang, <u>Chau-Zen Wang</u>, J.M. Sung, W.T. Chiu, S.H. Lin, Y.H. Chang, and M.J. Tang. Rigidity of collagen fibrils controls collagen gel-induced down-regulation of focal adhesion complex proteins mediated by alpha2beta1 integrin. J Biol Chem. 278:21886-92. [SCI, IF: 6.696 in subject of Biochemistry &amp; Molecular Biology]</p>
<b>Others</b>	