

DR. ZHANG GE
ASSOCIATE PROFESSOR

Research focus

- Basic science and clinical translational research in orthopedics & traumatology, including osteoporosis, osteonecrosis, fracture repair, osteoarthritis and rheumatoid arthritis.
- Exploring molecular mechanisms of musculoskeletal disorders, including osteoporosis, osteonecrosis, aged fracture repair and rheumatoid arthritis.
 - Identifying molecular targets with therapeutic potential in musculoskeletal disease.
 - Developing targeted delivery systems to accommodate specific therapeutic strategies in musculoskeletal disorders.

Dr. Zhang has led his group to publish a series of research work in *Nature Medicine, Arthritis & Rheumatism, Journal of Bone & Mineral Research, Bone and Osteoporosis International*.

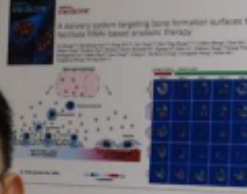
Funded Project 1:

Research a novel bone anabolic strategy for aged postmenopausal osteoporosis: involving miR-214 as osteogenic cells for promoting bone formation. Zhang Hong Science Foundation

Emerging osteoporosis is an important public health problem with significant economic burden. In fact, 47% of women aged 50 years and older have low bone mass, and 21% have osteoporosis. Further research is needed to suggest the potential of bone anabolic agents.

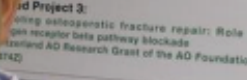
Funded Project 2:

A delivery system targeting bone formation surfaces to facilitate bone based anabolic therapy



Funded Project 3:

Improving osteoporotic fracture repair: Role of gene receptor beta pathway blockade. National AD Research Grant of the AD Foundation, (1742)



张 戈 博士
Dr. Zhang Ge
Associate Professor

CURRICULUM VITAE of Dr. ZHANG GE (zhangge@hkbu.edu.hk)

Name: Zhang Ge

Academic qualifications:

1990-1995 B. Med. Institute of Orthopaedics & Traumatology, Shanghai University of Chinese Medicine, Shanghai, China
1997-2000 M. Med. Institute of Orthopaedics & Traumatology, Shanghai University of Chinese Medicine, China
2000-2003 M.D. Institute of Orthopaedics & Traumatology, Shanghai University of Chinese Medicine, and Department of Orthopaedics & Traumatology, the Chinese University of Hong Kong, China

Previous academic positions held:

1995-2000 Resident Institute of Orthopaedics & Traumatology, Shanghai University of Chinese Medicine
2000-2003 Physician-in-Charge Institute of Orthopaedics & Traumatology, Shanghai University of Chinese Medicine
2004-2007 Postdoctoral Research Fellow Department of Orthopaedics & Traumatology, The Chinese University of Hong Kong, China
2007-2012 Research Assistant Professor Department of Orthopaedics & Traumatology, The Chinese University of Hong Kong, China

Present academic position:

2012- Associate Professor Ge Zhang's Lab (<http://www.gezhanglab.com/index.php>), Institute for Advancing Translational Medicine in Bone & Joint Diseases (<http://tmbj.hkbu.edu.hk/>), Hong Kong Baptist University

Previous relevant research work:

- Technical expertise: bone bio-imaging, bone biology, bone biomechanics and bone histomorphometry
- Research area: RNAi-based or phytotherapy-based translational research in osteoporosis, osteonecrosis, osteoarthritis, rheumatoid arthritis and fracture repair

Publication Records: Theses (3); Book Chapters (9); SCI Publications (106 from Web of Knowledge); Citations (220, excluding self-citation); h-index (9)

Representative publications (* corresponding author)

1. Wang X, Guo B, Li Q, Peng J, Yang Z, Wang A, Li D, Hou Z, Lv K, Kan G, Cao H, Wu H, Song J, Pan X, Sun Q, Ling S, Li Y, Zhu M, Zhang P, Peng S, Xie X, Tang T, Hong A, Bian Z, Bai Y, Lu A, Li Y, He F, **Zhang G***, Li Y. miR-214 targets ATF4 to inhibit bone formation. *Nature Medicine* 2013; 19(1): 93-100. (29 out of 30)
2. **Zhang G***, Guo B, Wu H, Tang T, Zhang BT, Zheng L, He Y, Yang Z, Pan X, Chow H, To K, Li Y, Li D, Wang X, Wang Y, Lee K, Hou Z, Dong N, Li G, Leung K, Hung L, He F, Zhang L, Qin L. A delivery system targeting bone formation surfaces to facilitate RNAi-based anabolic therapy. *Nature Medicine* 2012; 18(2): 307-14. (1 out of 24)
3. Xie XH, Wang XL, He YX, Liu Z, Sheng H, **Zhang G***, Qin L. Promotion of bone repair by implantation of cryopreserved bone marrow-derived mononuclear cells in a rabbit model of steroid-associated osteonecrosis. *Arthritis & Rheumatism* 2012; 64(5):1562-71. (6 out of 7)
4. He YX, Liu Z, Pan XH, Tang T, Guo BS, Zheng LZ, Xie XH, Wang XL, Lee KM, Li G, Cao YP, Wei L, Chen Y, Yang ZJ, Hung LK, Qin L, **Zhang G***. Deletion of estrogen receptor beta accelerates early stage of bone healing in a mouse osteotomy model. *Osteoporosis Int.* 2011; 23(1): 377-89. (17 out of 17)
5. **Zhang G**, Sheng H, He YX, Xie XH, Wang YX, Lee KM, Yeung KW, Li ZR, He W, Griffith JF, Leung KS, Qin L. Continuous occurrence of both insufficient neovascularization and elevated vascular permeability during inadequate repair of steroid-associated osteonecrotic lesions. *Arthritis & Rheumatism* 2009; 60(10): 2966-77. (1 out of 12)
6. **Zhang G**, Qin L, Sheng H, Yeung KW, Yeung HY, Cheung WH, Griffith J, Chan CW, Lee KM, Leung KS. Epimedium-derived Phytoestrogen Exert Beneficial Effect on Preventing Steroid-associated Osteonecrosis in Rabbits with Inhibition of both Thrombosis and Lipid-Deposition. *Bone* 2007; 40(3): 685-92. (1 out of 10)
7. **Zhang G**, Qin L, Shi Y. Epimedium-Derived Phytoestrogen Flavonoids Exert Beneficial Effect on Preventing Bone Loss in Late Postmenopausal Women: A 24-Month Randomized, Double-Blind and Placebo-Controlled Trial. *Journal of Bone and Mineral Research* 2007; 22(7): 1072-9. (1 out of 3)
8. Qin L, **Zhang G**, Sheng H, Yeung KW, Yeung HY, Chan CW, Cheung WH, Griffith J, Chiu KH, Leung KS. Multiple bioimaging modalities in evaluation of an experimental osteonecrosis induced by a combination of lipopolysaccharide and methylprednisolone. *Bone* 2006; 39(4): 863-71. (2 out of 10)
9. **Zhang G**, Qin L, Hung WY, Shi YY, Leung PC, Yeung HY, Leung KS. Flavonoids derived from herbal Epimedium Brevicornum Maxim prevent OVX-induced osteoporosis in rats independent of its enhancement in

intestinal calcium absorption. Bone 2006; 38(6): 818-25. (1 out of 7)

10. **Zhang G***, Qin L, Shi Y, Leung K. A comparative study between axial compression and lateral fall configuration tested in a rat proximal femur model. Clin Biomech (Bristol, Avon) 2005; 20(7): 729-35. (1 out of 4)

Awarded Prizes and Patents

1. **Zhang Ge**. A delivery system specifically approaching bone formation surfaces to facilitate translating RNAi-based anabolic therapy. Young Investigator Award. American Society for Bone and Mineral Research. San Diego 2011.
2. **Zhang G**, Qin L, Wu Heng, Hung LK. Preparation protocol of a bone-targeted delivery system for RNA interference-based bone anabolic therapy. Chinese Patent (Application ID: 201110156949.7; Application Publicity ID: CN 102824647 A; Publicity Date: 2012.12.19)