ZHANG Ge (M.D.)

Academic qualifications:

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

Previous academic positions held:

1995-2000:	Resident, Institute of Orthopaedics &Traumatology, Shanghai University of Traditional Chinese Medicine
2000-2003:	Physician-in-Charge, Institute of Orthopaedics &Traumatology, Shanghai University of Traditional Chinese Medicine
2004-2007:	Postdoctoral Research Fellow, Department of Orthopedics & Traumatology, The Chinese University of Hong Kong, China
2007-2012:	Research Assistant Professor, Department of Orthopedics & Traumatology, The Chinese University of Hong Kong, China
2012-2016:	Associate Professor, Institute for Advancing Translational Medicine in Bone & Joint Diseases, Hong Kong Baptist University, China

Present academic position:

2017-now:	Professor and Associate Director, Institute for Advancing Translational Medicine in Bone & Joint Diseases, Hong Kong Baptist University, China

Previous relevant research work:

Identify small molecules with novel therapeutic target, developing targeted delivery systems (Ge Zhang's lab-http://www.gezhanglab.com/index.php).

Publication records:

Section A-Five most representative publications in the recent five years (* *Corresponding Author*)

1. Li F, Lu J, Jiang F, Liu J, Li D, Yao H, Liang C, Wang M, Wang L, Zhang Q, Wen J, Zhang ZK, Li J, Lv Q, He X, Guo B, Guan D, Yu Y, Dang L, Wu X, Li Y, Sun S, Zhang BT, Lu A, **Zhang G***. Toward the next generation of smart anti-tumor drugs: a nucleolin aptamer-paclitaxel conjugate for tumor-specific targeting in ovarian cancer. ***Nat Commun.*** (Accepted).
2. Li D, Liu J, Guo B, Liang C, Dang L, Lu C, He X, Cheung HY, Xu L, Lu C, He B, Liu B, Shaikh AB, Li F, Wang L, Yang Z, Au DW, Peng S, Zhang Z, Zhang BT, Pan X, Qian A, Shang P, Xiao L, Jiang B, Wong CK, Xu J, Bian Z, Liang Z, Guo DA, Zhu H, Tan W, Lu A, **Zhang G***. Osteoclast-derived exosomal miR-214-3p inhibits osteoblastic bone formation. ***Nat Commun***. 2016 Mar 7; 7:10872.
3. Liang C, Guo B, Wu H, Shao N, Li D, Liu J, Dang L, Wang C, Li H, Li S, Lau WK, Cao Y, Yang Z, Lu C, He X, Au DW, Pan X, Zhang BT, Lu C, Zhang H, Yue K, Qian A, Shang P,

Xu J, Xiao L, Bian Z, Tan W, Liang Z, He F, Zhang L, Lu A, **Zhang G***. Aptamer-functionalized lipid nanoparticles targeting osteoblasts as a novel RNA interference-based bone anabolic strategy. ***Nat Med***. 2015; 21(3):288-94.

4. Liang C, Li F, Wang L, Zhang ZK, Wang C, He B, Li J, Chen Z, Shaikh AB, Liu J, Wu X, Peng S, Dang L, Guo B, He X, Au DWT, Lu C, Zhu H, Zhang BT, Lu A, **Zhang G***. Tumor cell-targeted delivery of CRISPR/Cas9 by aptamer-functionalized lipopolymer for therapeutic genome editing of VEGFA in osteosarcoma. ***Biomaterials***. 2017 Sep 13;147:68-85. doi: 10.1016/j.biomaterials.2017.09.015.
5. Wang X, Guo B, Li Q, Peng J, Yang Z, Wang A, Li D, Hou Z, Lv K, Kan G, Cao H, Wu H, SongJ, 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, He F, **Zhang G***, Li Y. miR-214 targets ATF4 to inhibit bone formation. ***Nat Med*** 2013; 19:93-100.

Section B - Five representative publications beyond the recent five-year period with the latest publication entered first

6. **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.
7. Peng S, **Zhang G (Co-first author)**, He Y, Wang X, Leung P, Leung K, Qin L. Epimedium-derived flavonoids promote osteoblastogenesis and suppress adipogenesis in bone marrow stromal cells while exerting an anabolic effect on osteoporotic bone. ***Bone*** 2009; 45(3): 534-44.
8. **Zhang G**, Wang XL, Sheng H, Xie XH, He YX, Yao XS, Li ZR, Lee KM, He W, Leung KS, Qin L. Constitutional flavonoids derived from Epimedium dose-dependently reduce incidence of steroid-associated osteonecrosis not via direct action by themselves on potential cellular targets. ***Plos One*** 2009; 4(7): e6419.
9. **Zhang G**, Qin L, Sheng H, Wang XL, Wang YX, Yeung DK, Griffith JF, Yao XS, Xie XH, Li ZR, Lee KM, Leung KS. A Novel Semisynthesized Small Molecule Icaritin Reduces Incidence of Steroid-associated Osteonecrosis with Inhibition of both Thrombosis and Lipid-deposition in a Dose-dependent Manner. ***Bone*** 2009; 44(2): 345-56.
10. **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.

Award:

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, USA, 2011

Patent:

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)

Funded Projects

HKBU12114416 (GRF, RGC)	Role of osteoclast-derived exosomal miR-214 in regulating osteoblastic bone formation (2017.1.1-2019.12.31, HK$1334,644)
HKBU12101117 (GRF, RGC)	The role of osteoclastic miR-214-3p in early osteoarthritis development (2018.1.1-2020.6.30, HK$871,855)
HKBU 12100918 (GRF, RGC)	From precision medicine to drug discovery: osteoblast-specific inhibition of Smurf1 activity promotes bone formation in distinctive rats with age-related osteoporosis (2019.1.1-2021.12.31, HK$ 971,481)
UIM/298 (ITF)	Targeting sclerostin to reverse established osteoporosis: Aptamer characterization and evaluation for drug discovery (2017.01.01-2018.12.31, HK$1000,000)
SCM-2016-SZTIC-001 (Science and Technology Innovation Commission of Shenzhen Municipality)	An innovative immuno-chemotherapy for triple-negative breast cancer: PD-L1 aptamer-paclitaxel conjugate (2016.7.1-2019.6.30, RMB3,000,000)
FRG2/16-17/011 (HKBU-RC)	The Role of Osteoclastic MiR-214-3p in Early Osteoarthritis Development (2018.01.01-2019.12.31, HK$127,500.00)
RC-IRMS/13-14/02CMTR (HKBU-RC)	Role of miR-214 from osteoclast in regulating osteoblastic bone formation (2014.8.1-2017.7.31, HK$ 2,981,576)
RC-IRMS/15-16/01 (HKBU-RC)	Tumor cell-targeted delivery of CRISPR/Cas9 by aptamer-functionalized lipid nanoparticles for therapeutic genome editing of miR-214 in osteosarcoma (2018.3.1-2020.2.28, HK$2,993,400)
Private Fund from Huabao Ltd.	Anti-PD-L1 aptamer in combination of paclitaxel for treating triple-negative breast cancer (2016.05.03-, HK$3000,000)
Private Fund from from Qinfeng, QFPG/14-15/01-SCMD	Aptamer-modified Paclitaxel for Tumor Therapy (2014.9.4-, HK$2,700,000)