Aptamer-drug conjugates

1. Principle Investigator: Prof. Aiping Lu. Title: Toward the next generation of smart anti-tumor drugs: a highly water-soluble nucleolin aptamer-paclitaxel conjugate with a serum-stable linker for tumor-specific targeting in ovarian cancer. Funding Body: GRF/RGC. Project ID: HKBU 12102518. Funding Period: 2019.1.1-2021.6.30. Funding Amount: HK$697,734.
2. Principle Investigator: Prof. Ge Zhang. Title: From precision medicine to drug discovery: osteoblast-specific inhibition of Smurf1 activity promotes bone formation in distinctive rats with age-related osteoporosis. Funding Body: GRF/RGC. Project ID: HKBU 12100918. Funding Period: 2019.1.1-2021.12.31. Funding Amount: HK$ 971,481.
3. Principle Investigator: Prof. Ge Zhang. Title: An innovative immuno-chemotherapy for triple-negative breast cancer: PD-L1 aptamer-paclitaxel conjugate. Funding Body: Science and Technology Innovation Commission of Shenzhen Municipality. Project ID: SCM-2016-SZTIC-001. Funding Period: 2016.7.1-2019.6.30. Funding Amount: RMB 3,000,000.
4. Principle Investigator: Prof. Ge Zhang. Title: Functional role of Plekho1 within osteoblast in regulating BMP signaling and bone formation during age-related osteoporosis development in both genders: from molecular mechanism to translational therapeutics. Funding Body: HKBU-RC. Project ID: RC-ICRS/14-15/01. Funding Period: 2016.1.1- 2018.11.30. Funding Amount: HK$1,993,740.
5. Principle Investigator: Dr. Chao Liang. Title: From precision medicine to drug discovery: Inhibition of Smurf1 activity by a chalcone derivative to promote local bone formation during spinal fusion in distinctive mice subgroup with age-related osteoporosis. Funding Body: NSFC. Project ID: NSFC81700780. Funding Period: 2018.1.1-2020.12.31. Funding Amount: RMB200,000.

Therapeutic Aptamer:

1. Principle Investigator: Prof. Aiping Lu. Title: Does aberrantly overexpressed CKIP-1 suppress osteoblast-mediated articular bone repair in inflammatory arthritis? A collagen-induced non-human primate arthritis model. Funding Body: GRF/RGC. Project ID: HKBU 12122516. Funding Period: 2017.1.1-2019.6.30. Funding Amount: HK$795,400.
2. Principle Investigator: Prof. Aiping Lu. Title: Strategic Development of Aptamer-based Drug Discovery Platform. Funding Body: HKBU-RC. Project ID: SDF16-0603-P02. Funding Period: 2018.1.1-2019,12.31. Funding Amount: HK$5,000,000
3. Principle Investigator: Prof. Aiping Lu. Title: Toward precision medicine in aged osteoporotic subgroup with poor BMP responsiveness: Oligopeptide-chalcone derivative conjugate targeting osteoblasts for Smurf1 inhibition and bone formation enhancement. Funding Body: HKBU-RC. Project ID: RC-ICRS/16-17/01. Funding Period: 2018.01-2020.12. Funding Amount: HK$1,998,900.
4. Principle Investigator: Prof. Ge Zhang. Title: Role of osteoclast-derived exosomal miR-214 in regulating osteoblastic bone formation. Funding Body: GRF/RGC. Project ID: HKBU12114416. Funding Period: 2017.1.1-2019.12.31. Funding Amount: HK$1334,644.
5. Principle Investigator: Prof. Ge Zhang. Title: The role of osteoclastic miR-214-3p in early osteoarthritis development. Funding Body: GRF/RGC. Project ID: HKBU12101117. Funding Period: 2018.1.1-2020.6.30. Funding Amount: HK$871,855.
6. Principle Investigator: Prof. Ge Zhang. Title: Targeting sclerostin to reverse established osteoporosis: Aptamer characterization and evaluation for drug discovery. Funding Body: ITF. Project ID: UIM298. Funding Period: 2017.1.1-2018.12.31. Funding Amount: HK$1000,000.
7. Principle Investigator: Prof. Ge Zhang. Title: Tumor cell-targeted delivery of CRISPR/Cas9 by aptamer-functionalized lipid nanoparticles for therapeutic genome editing of miR-214 in osteosarcoma. Funding Body: HKBU-RC. Project ID: RC-IRMS/15-16/01. Funding Period: 2018.3.1-2020.2.28. Funding Amount: HK$2,993,400.
8. Principle Investigator: Dr. Baosheng Guo. Title: Understanding mechanical stimulation-independent effects of skeletal muscle on bone: role of muscle-derived miRNA in regulating osteoblastic bone formation. Funding Body: GRF/RGC. Project ID: HKBU12136616. Funding Period: 2017.01.01-2018.12.31. Funding Amount: HKD653,436.
9. Principle Investigator: Dr. Baosheng Guo. Title: A delivery system specifically targeting osteoclasts for encapsulating osteoclastic miRNAs modulator to inhibit bone resorption. Funding Body: NSFC. Project ID: NSFC 81572195. Funding Period: 2016.1.1-2019,12.31 Funding Amount: RMB600,000.
10. Principle Investigator: Dr. Defang Li. Title: The effect of miR-214-3p on osteolytic bone metastasis of breast cancer by regulating osteoclast differentiation. Funding Body: NSFC. Project ID: NSFC 8160111219. Funding Period: 2017.1.1-2019.12.31. Funding Amount: RMB190,000.
11. Principle Investigator: Dr. Yuanyuan Yu. Title: Targeting sclerostin to reverse established osteoporosis: Aptamer characterization and evaluation for drug discovery. Funding Body: NSFC. Project ID: NSFC 81601929. Funding Period: 2017.1.1-2019.12.31. Funding Amount: RMB180,000.
12. Principle Investigator: Dr. Jin Liu. Title: The role of osteoclastic miR-214-3p in subchondral bone remodeling during early osteoarthritis development. Funding Body: NSFC. Project ID: NSFC 81601929. Funding Period: 2018.1.1-2020.12.31. Funding Amount: RMB200,000.
13. Principle Investigator: Dr. Fangfei Li. Title: Osteosarcoma-specific delivery of CRISPR/Cas9 by aptamer-functionalized lipopolymer for therapeutic genome editing of VEGFA in a patient-derived xenograft model. Funding Body: GRF/RGC. Project ID: HKBU 12101018. Funding Period: 2019.1.1-2021.6.30. Funding Amount: HK$882,090.
14. Principle Investigator: Dr. Fangfei Li. Title: Tumor cell-targeted delivery of CRISPR/Cas9 by aptamer-functionalized lipopolymer for therapeutic genome editing of VEGFA in osteosarcoma. Funding Body: Science and Technology Innovation Commission of Shenzhen Municipality. Project ID: JCYJ20170307 161659648. Funding Period: 2017.07-2019.06. Funding Amount: RMB 300,000.
15. Principle Investigator: Dr. Fangfei Li. Title: Tumor cell-targeted delivery of CRISPR/Cas9 by aptamer-functionalized lipopolymer for therapeutic genome editing of VEGFA in osteosarcoma. Funding Body: NSFC. Project ID: NSFC 81703049. Funding Period: 2018.01-2020.12 Funding Amount: RMB 200,000.

Aptamer Selection:

1. Principle Investigator: Prof. Aiping Lu Title: The next generation aptamer screening system: a SMART, high yield, label-free and high throughput microfluidic platform. Funding Body: HKBU-RC. Project ID: RC-IRMS/16-17/03. Funding Period: 2018.04.01-2020.03.31. Funding Amount: HK$3,000,000.

Diagnostic Aptamer:

1. Principle Investigator: Dr. Yuanyuan Yu. Title: Evaluation of the cardiovascular risk of humanized monoclonal antibody against sclerostin in aortic aneurysm mice model. Funding to be sought.