Osteoarthritis Research Laboratory

Prof. Jang-Soo Chun

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Education :

- **1979-1986** B.S. in Biology, Pusan National University
- **1986-1988** M.S. in Biology, Pusan National University
- **1988-1992** Ph.D. in Molecular and Cellular Biology, Univ. of Massachusetts
  - Program in Molecular and Cellular Biology
  - Advisor : Bruce S. Jacobson
  - Thesis : Signal transduction during HeLa cell adhesion to a collagen substratum

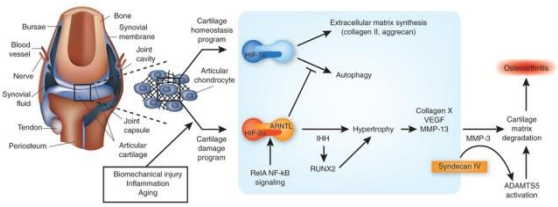
Experience :

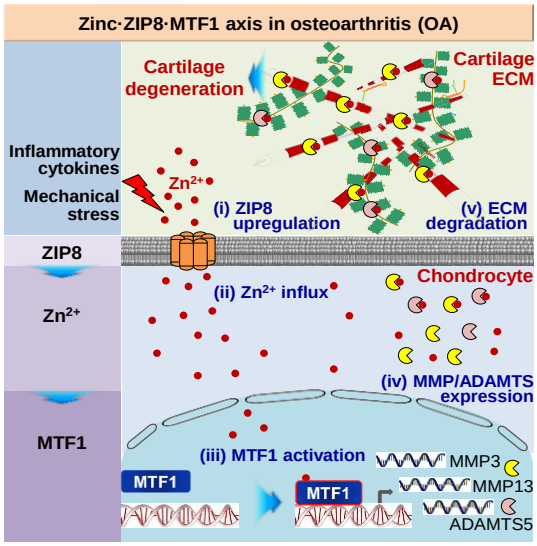
- **1992-1994** Post doc. in Harvard Medical School
  - Program in Neonatology
  - Advisor : Merton M Bernfield
- **1994-2000** Assistant professor, associate professor in Kyungpuk National University
- **2000-present** Professor in GIST, school of Life science

- **2006-2010** RCBN (Research Center for Biomolecular Natechnology) - Director
- **2006-2007** Dean of the school of life science, Director of BK21
- **2007-2016** Director, Cell Dynamics Research Center(CDRC)
- **2014-present** Director, Integrative Aging Research Center
- **2016-present** Director, Osteoarthritis Research Center

Research Topics

- Osteoarthritis research laboratory, located at Gwangju Institute of Science and Technology (GIST) which is firmly committed to fulfilling its foundational goals of advancing the nation's science and technology and nurturing excellent talents in those fields.
- OA is the most common of all arthropathies and is a leading cause of disability with a large socioeconomic cost. Although a progress has been made in the symptomatic treatment of the disease, no effective disease-modifying therapies for OA have been developed to date. Comprehensive understanding of OA pathogenesis will enable rational identification of biomarkers and therapeutic targets and provide insights to mechanism-based strategies for the treatment of OA.
- The ORL goal is to elucidate the molecular mechanisms of cartilage degeneration and osteoarthritis (OA) pathogenesis. We will analyze transcription factors (TFs) and transcriptomes, construct TF networks, and elucidate the interactomes that govern cartilage degeneration and OA. We will ultimately identify novel biomarkers and targets, and validate their therapeutic potential for treating OA.





Selected publications

- Hypoxia-inducible factor-2α is a catabolic regulator of osteoarthritic cartilage destruction (*Nat Med*. 2010)

- Regulation of the Catabolic Cascade in Osteoarthritis by the Zinc-ZIP8-MTF1 Axis (*Cell.* 2014)

- Hypoxia-inducible factor-2α is an essential catabolic regulator of inflammatory rheumatoid arthritis. (*PLoS Biol*. 2014)

- Pleiotropic roles of metallothioneins as regulators of chondrocyte apoptosis and catabolic and anabolic pathways during osteoarthritis pathogenesis (*Ann Rheum Dis*. 2016)

- Inhibition of BATF/JUN transcriptional activity protects against osteoarthritic cartilage destruction (*Ann Rheum Dis*. 2016)

PUBMED AUTHOR INFORMATION

https://www.ncbi.nlm.nih.gov/pubmed/?term=jang-soo+chun