

Intelligent CRISPR Design for Bone Regeneration

Authors : Yu-Chen Hu

Abstract : Gene editing by CRISPR and gene regulation by microRNA or CRISPR activation have dramatically changed the way to manipulate cellular gene expression and cell fate. In recent years, various gene editing and gene manipulation technologies have been applied to control stem cell differentiation to enhance tissue regeneration. This research will focus on how to develop CRISPR, CRISPR activation (CRISPRa), CRISPR inhibition (CRISPRi), as well as bi-directional CRISPR-AI gene regulation technologies to control cell differentiation and bone regeneration. Moreover, in this study, CRISPR/Cas13d-mediated RNA editing for miRNA editing and bone regeneration will be discussed.

Keywords : gene therapy, bone regeneration, stem cell, CRISPR, gene regulation

Conference Title : ICOOS 2024 : International Conference on Oncology and Orthopaedic Surgery

Conference Location : Dubai, United Arab Emirates

Conference Dates : January 18-19, 2024