SKELETAL BIOMEDICINE LABORATORY

INTRODUCTION

The skeletal biomedicine laboratory (SBL) unites several lines of research at the University of Malaga and IBIMA-Plataforma-Bionand related to the study of disease mechanisms and new therapeutic strategies for skeletal pathologies. Our research group uses a multidisciplinary strategy to study the most relevant bone pathologies in humans, from osteoporosis and osteoarthritis to rare diseases such as osteogenesis imperfecta. The therapeutic strategies under investigation at the SBL meet the premises of precision medicine and include the development of new drugs, biomaterials, secretomes/exosomes, repositioning of "orphan drugs" and gene therapy.

RESEARCH TOPICS

- Disease mechanisms and new therapeutic strategies for skeletal pathologies.
- Development of advanced therapies.
- Line of intelligent Biomaterials.
- Gene and Cell Therapy.
- Genetic editing line for animal modeling.
- Bone differentiation and metabolism.
- Repositioning of cellular anti-stress therapies.
- Functional diagnosis of rare skeletal diseases.
- Application of Artificial Intelligence to single cell expression analysis.
- Skeletal organoids.

SCIENTIFIC-TECHNICAL SERVICES

- Genetic counseling in skeletal dysplasias.
- Generation of intelligent Biomaterials and skeletal organoids.
- Generation of animal models in mice and zebrafish by CRISPR.
- Clinical functional studies of variants of uncertain significance.
- Application of Artificial Intelligence to single cell expression analysis Skeletal organoids.

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