

<p>(細胞不均一性学)</p> <p>上住 聡芳 教授 上住 円 助教</p> <p>連絡先: uezumi@bioreg.kyushu-u.ac.jp</p>	<p>研究内容</p> <p>人体には様々な種類の細胞が存在し、一つの臓器も多様な細胞種で構成されています。さらに、これまでは一つの種類と考えられてきた細胞も均一ではなく、不均一な集団であることがわかってきています。生体の恒常性は、この不均一な細胞群が連携し生み出す秩序によって支えられています。私たちの研究室では、健康維持に欠くことができない骨格筋を構成する細胞群が織り成す連関機構を研究し、筋の健全性が維持される仕組みの理解を目指しています。また、筋疾患や加齢に伴うサルコペニアなどにおいて異常をきたす細胞種や細胞連関を明らかにすることで、疾患のメカニズムを解明します。遺伝子改変マウスやヒト細胞を駆使してこれらの目的達成を図り、得られた成果を筋疾患やサルコペニアの予防・治療法開発につなげることで健康長寿の実現に貢献します。</p> <p>指導内容</p> <ol style="list-style-type: none"> ① 筋再生メカニズムの理解 <ul style="list-style-type: none"> - 骨格筋の幹細胞やニッチ細胞の単離・培養および機能解析 ② 骨格筋老化（サルコペニア）の病態メカニズムの理解 <ul style="list-style-type: none"> - サルコペニアに寄与する細胞種や細胞連関の解析 ③ 筋疾患の病態解明と治療法開発 <ul style="list-style-type: none"> - 筋の脂肪化・線維化の起源細胞の制御機構の解析 ④ ヒト細胞を用いた筋オルガノイドの開発 <ul style="list-style-type: none"> - ヒト骨格筋由来細胞の単離・培養と組織化
<p>Department of Cellular Heterogeneity</p> <p>Professor Akiyoshi Uezumi</p> <p>Assistant Professor Madoka Uezumi</p> <p>E-mail: uezumi@bioreg.kyushu-u.ac.jp</p>	<p>Research Interests</p> <p>Our body contains many different types of cells, and even a single organ is composed of diverse cell types. Furthermore, cells previously recognized as a single type are now being found to be heterogeneous rather than uniform. The homeostasis of living organisms is supported by the order generated by the coordination of these heterogeneous cell populations. We are studying the interactions of cell populations in skeletal muscle, which is indispensable organ for our health, to understand how muscle integrity is maintained. We also aim to elucidate the mechanisms of muscle diseases and age-related sarcopenia by clarifying the cell types and cell-cell interactions that are deteriorated in these conditions. We will achieve these goals by utilizing genetically engineered mice and human cells and contribute to the realization of healthy longevity.</p> <p>Contents of Teaching/ Research Themes</p> <ol style="list-style-type: none"> 1) Understanding the mechanisms of muscle regeneration <ul style="list-style-type: none"> - Isolation, culture and functional analysis of skeletal muscle stem cells and niche cells 2) Understanding the pathogenesis of skeletal muscle aging (sarcopenia) <ul style="list-style-type: none"> - Analysis of cell types and cell-cell interactions that contribute to sarcopenia 3) Elucidation of the pathology of muscle diseases and development of therapy <ul style="list-style-type: none"> - Analysis of the cellular regulatory mechanisms underlying the adipogenesis and fibrosis in muscle 4) Development of human muscle organoids <ul style="list-style-type: none"> - Isolation, culture and organization of human skeletal muscle-derived cells