

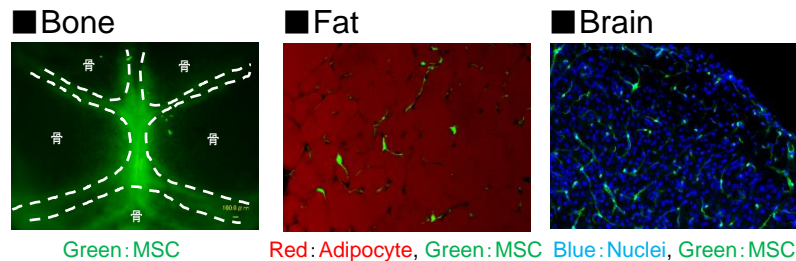
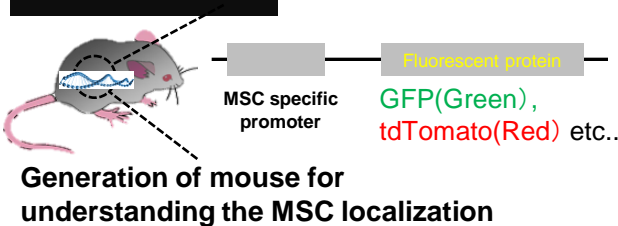
Department of Regenerative Science



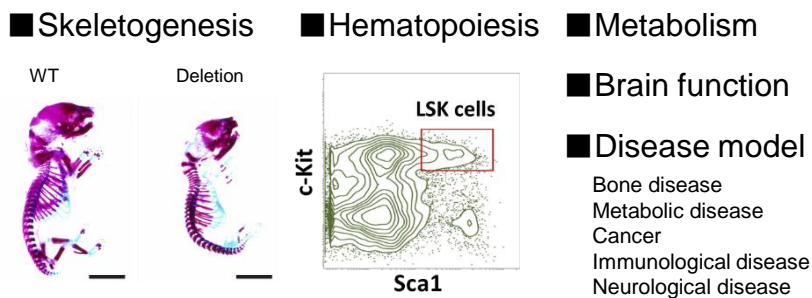
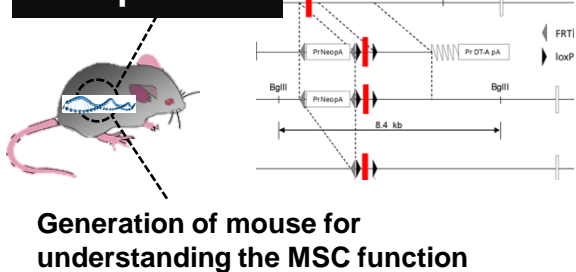
Analysis of the molecular biological features of mesenchymal stem cells *in vivo*

We are studying mesenchymal stem cells (MSCs), a type of tissue stem cells. In clinical studies, cultured MSCs have shown important therapeutic effects on disease, reducing neurological defects and regulating immune responses. However, *in vivo* MSC localization, function, and properties are poorly understood. To address these issues, we are developing a method that allows us to visualize MSCs *in vivo*, manipulate MSC function *in vivo*, and analyze the molecular biology of MSCs *in vivo*. Using this approach will enable us to understand the molecular biology features of MSCs *in vivo*, leading to therapeutic applications for tissue repair and regeneration.

Visualization

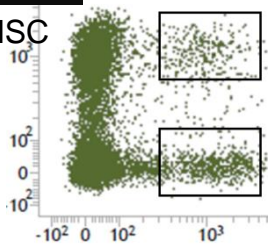
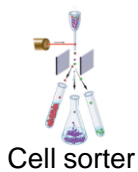


Manipulation



Understanding

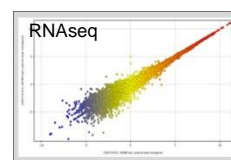
Collect the MSC



Molecular

Molecular biological techniques

Omics (RNAseq)



Lineage

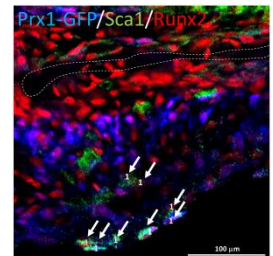
Hierarchy

Lineage determination

Stemness



Localizaion



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