病態生理学分野
Division of Pathophysiology

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不思議だ、何でかな、と思う病気や生体の疑問を、
自分が自分で調べて自分の手で解き明かす！

Research Projects
Even though the recent advances in biological sciences, there are many clinical challenges and medical issues that need to be addressed. To bridge the gap between science and medicine, we have conducted basic studies by developing and using animal disease models, especially mimicked human unmet medical issues. With such disease model animals, we try to elucidate the pathomechanisms and develop novel effective treatments. For example, we are studying the mechanisms underlying the central nervous system (CNS) regeneration after traumatic injury, embryonic brain development, degenerative spinal diseases, and liver fibrosis/failure, and so on. We are focusing on the role of specific cell populations or molecules for pathophysiology by utilizing with cell sorter, laser microdissection, next generation sequencing, cell transplantation technique, and ex vivo organ culture in such disease model animals. At the same time, we also analyze the human disease sample tissues resected by surgery in the hospital and clock the experimental findings with the actual pathological features, or transplanted pathological tissues cells into the humanized mur which enables us to confirm the pathological role of specific cell populations or molecules.

Major Recent Publications: