学 位 論 文 の 要 旨

所　　属	三重大学大学院医学系研究科 生命医科学専攻　ゲノム再生医学講座	氏　　名	王　智鵬

主論文の題名

Zebrafish β-adrenergic receptor mRNA expression and control of pigmentation

主論文の要旨

Beta adrenergic receptors (β-ARs) are members of the G-protein-coupled receptor superfamily and mediate various physiological processes in many species. The expression patterns and functions of β-ARs in zebrafish are, however, largely unknown. We have identified zebrafish β-AR orthologs, which we have designated *adrb1*, *adrb2a*, *adrb2b*, *adrb3a* and *adrb3b*. *adrb1* was found to be expressed in the heart and brain. Expression of *adrb2a* predominated in the brain and skin, whereas *adrb2b* was found to be highly expressed in muscle, pancreas and liver. Both *adrb3a* and *adrb3b* were exclusively expressed in blood. Knock-down of these β-ARs by morpholino oligonucleotides revealed a functional importance of adrb2a in pigmentation. Expression of *atp5a1* and *atp5b*, genes that encode subunits of F1F0-ATPase, which is known to be involved in pigmentation, was significantly increased by knock-down of adrb2a. Our data suggest that adrb2a may regulate pigmentation, partly by modulating F1F0-ATPase.

（注）２，０００字以内にまとめて記入すること。