日本語

日本栄養大学大学院
日本栄養大学
日本栄養大学短期大学部

Faculty Members

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Akaike Toru

Faculty of Nutrition
Professor

■ Education

1.	1993/04～1999/03	School of Medicine, Faculty of Medicine, Toyama Medical and Pharmaceutical University, Graduated, Bachelor of Medicine
2.	2006/04～2009/04	〔Doctoral course〕 Molecular Medicine and Informatics, Graduate School of Medicine, Yokohama City University, Completed, Doctor of Philosophy in Medical Science

■ Career

1.	1999/04～2001/03	Yokohama City University Hospital Resident
2.	2001/04～2003/03	Fujisawa City Hospital Pediatrics Clinical Fellow
3.	2003/04～2005/03	Yokohama City University Medical Center Cardiovascular Center in Pediatrics Clinical Fellow
4.	2005/04～2006/03	Yokohama City University Hospital Pediatrics Clinical Fellow
5.	2009/04～2012/09	University of California, Los Angeles Department of Anesthesiology and Molecular Biology Institute Postdoctoral Fellow
6.	2012/10～2017/02	The Jikei University School of Medicine Faculty of Medicine, Department of Cell Physiology Assistant Professor
7.	2017/03～2022/06	The Jikei University School of Medicine Faculty of Medicine, Department of Cell Physiology Lecturer
8.	2022/07～2023/03	The Jikei University School of Medicine Faculty of Medicine, Department of Cell Physiology Associate Professor
9.	2023/04～	Kagawa Nutrition University Faculty of Nutrition Professor

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■ Courses Previously Taught

1. Anatomical physiology（Kagawa Nutrition University）
2. Anatomical Physiology（Nursing School of The Jikei）
3. Anatomical Physiology Practice（Kagawa Nutrition University）
4. Anatomy（Kagawa Nutrition University）
5. Clinical Physiology（Kagawa Nutrition University）
6. Clinical Physiology Practice（Kagawa Nutrition University）
7. Medical Safety Management（Kagawa Nutrition University）
8. Medical Safety Management Practice（Kagawa Nutrition University）
9. Pediatrics（Kagawa Nutrition University）
10. Pediatrics（Kagwa Nutrition University）
11. Physiology（Kagawa Nutrition University）
12. Physiology（The Jikei University）
13. Physiology Practice（The Jikei University）

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■ Research Interests/Keywords

Embryonic medicine and pediatrics, Physiology (Key Word : Ductus Arteriosus)

■ Publications

1. Journal Articles Transgenic mice overexpressing Pitx2 in the atria develop tachycardia-bradycardia syndrome. (Collaboration) 2025/09
2. Journal Articles Evaluation of Ductal Tissue in Coarctation of the Aorta Using X-Ray Phase-Contrast Tomography. (Collaboration) 2021/03
3. Journal Articles Thiamine treatment preserves cardiac function against ischemia injury via maintaining mitochondrial size and ATP levels. (Collaboration) 2021/01
4. Journal Articles Effect of Long-term Administration of Prostaglandin E1 on Morphologic Changes in Ductus Arteriosus. (Collaboration) 2020/12
5. Journal Articles Fibrosis growth factor 23 is a promoting factor for cardiac fibrosis in the presence of transforming growth factor-β1. (Collaboration) 2020/04
6. Journal Articles Standard-dose gentamicin does not increase risk of patent ductus arteriosus. (Collaboration) 2020/02
7. Journal Articles Transcriptional profiles in the chicken ductus arteriosus during hatching. (Collaboration) 2019/03
8. Journal Articles Prostaglandin E2 receptor EP4 inhibition contracts rat ductus arteriosus. (Collaboration) 2018/12
9. Journal Articles CCN3 secreted by prostaglandin E2 inhibits intimal cushion formation in the rat ductus arteriosus. (Collaboration) 2018/09
10. Journal Articles Pulmonary hypertension due to left heart disease causes intrapulmonary venous arterialization in rats. (Collaboration) 2017/11
11. Journal Articles A Sarcoplasmic Reticulum Localized Protein Phosphatase Regulates Phospholamban Phosphorylation and Promotes Ischemia Reperfusion Injury in Heart. (Collaboration) 2017/04
12. Journal Articles Tissue thrombin is associated with the pathogenesis of dilated cardiomyopathy. (Collaboration) 2017/02
13. Journal Articles Impairment of Excitation-Contraction Coupling in Right Ventricular Hypertrophied Muscle with Fibrosis Induced by Pulmonary Artery Banding. (Collaboration) 2017/01
14. Journal Articles Mechanisms of Ductus Arteriosus Closure (Collaboration) 2016/10
15. Journal Articles Lipopolysaccharide delays closure of the rat ductus arteriosus by induction of inducible nitric oxide synthase but not prostaglandin E2. (Collaboration) 2016/02
16. Journal Articles Low Cardiac Output Leads Hepatic Fibrosis in Right Heart Failure Model Rats. (Collaboration) 2016/02
17. Journal Articles Prostaglandin E-mediated Vascular Remodeling of the Ductus Arteriosus and Ductus-Dependent Congenital Heart Diseases. (Collaboration) 2016
18. Journal Articles Transcription profiles of the ductus arteriosus in Brown-Norway rat with irregular elastic fiber formation. (Collaboration) 2014/04
19. Journal Articles Role of ion channels in ductus arteriosus closure. (Collaboration) 2014
20. Journal Articles T-type Ca2+ channels promote oxygenation-induced closure of the rat ductus arteriosus not only by vasoconstriction but also by neointima formation. (Collaboration) 2009/09
21. Journal Articles Sarcalumenin is Essential for Maintaining Cardiac Function During Endurance Exercise Training. (Collaboration) 2009/08
22. Journal Articles Comparison of markers for fetal inflammatory response syndrome: Fetal blood interleukin-6 and neonatal urinary beta(2)-microglobulin. (Collaboration) 2009/06
23. Journal Articles Long-Term Electrocardiographic Follow-up From Childhood of an Adult Patient With Brugada Syndrome Associated With Sick Sinus Syndrome. (Collaboration) 2009/03
24. Journal Articles Epac1 is upregulated during neointima formation and promotes vascular smooth muscle cell migration. (Collaboration) 2008/10
25. Journal Articles PGE2-activated Epac promotes neointimal cushion formation of the rat ductus arteriosus by a process distinct from that of PKA. (Collaboration) 2008/10

26.	Journal Articles	Molecular Biology of Cardiomyopathy（Collaboration） 2008/05
27.	Journal Articles	Interleukin-15 inhibits smooth muscle cell proliferation and hyaluronan production in rat ductus arteriosus.（Collaboration） 2007/10
28.	Journal Articles	Maternal vitamin A altered gene profiles and structural maturation of the rat ductus arteriosus.（Collaboration） 2007/09
29.	Journal Articles	Chronic activation of the prostaglandin receptor EP4 promotes hyaluronan-mediated neointimal formation in the ductus arteriosus.（Collaboration） 2006/11
30.	Journal Articles	Multiple transcripts of Ca2+ channel subunits and a novel spliced variant of a1C subunit in the rat ductus arteriosus.（Collaboration） 2006/04
31.	Journal Articles	Long-term course and clinical characteristics of ventricular tachycardia detected in children by school-based heart disease screening.（Collaboration） 2005/03

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■ Grants

1.	2013/04～2015/03	Role of cardiac fibroblasts on cardiac development and differentiation during fetal period (Key Word : Cardiac fibroblasts)
2.	2014/04～2017/03	Molecular mechanisms of ductus Arteriosus closure
3.	2016/04～2018/03	Elucidation of oxygen-sensing molecular mechanisms on fetal pulmonary and ductus arteriosus（Key Word : Ductus Arteriosus)
4.	2016/04～2018/03	Troponin T replacement can be a new therapy for dilated cardiomyopathy（Key Word : Dilated cardiomyopathy)
5.	2017/04～2021/03	Characterization of specificity and pathophysiology in pulmonary veins
6.	2018	Novel therapeutic approach for patent ductus arteriosus through oxygen-induced vascular remodeling（Key Word : Ductus Arteriosus)
7.	2019/04～2022/03	Elucidation of molecular mechanisms targeting oxygen-induced vascular remodeling on ductus arteriosus closure（Key Word : Ductus Arteriosus)
8.	2021/04～2024/03	Elucidation of the molecular mechanism of ductus arteriosus closure（Key Word : Ductus Arteriosus)
9.	2022/04～2026/03	Elucidation of oxygen-induced endothelium-mediated mechanisms underlying anatomical ductus arteriosus closure（Key Word : Ductus Arteriosus)

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■ Memberships

1.	2001～	Japan Pediatric Society
2.	2001～	Japanese Society of Pediatric Cardiology and Cardiac Surgery
3.	2001～	The Japanese Circulation Society
4.	2006～	The Physiological Society of Japan
5.	2014/03～	∟ Councilor
6.	2007/05～2020/03	American Heart Association
7.	2019～	The Japan Society for Medical Education

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