


List of courses available for graduate students (Wakayama Medical University)

	Course name (Press the name to jump to the link)	Professor name (Press the name to jump to the link)			Acceptable number of people	Research theme	Massege from Professor
	Pharmacology		Tomoe Nishitani, Ph. D. (Working name: Tomoe Y. Nakamura)		1~2	Our research themes are solving following problems by investigating various ion signal regulators, such as ion channels, ion transporters and calcium sensors. 1) Roles of calicium-signaling in cardiac and neuronal tissues under physiological and pathological conditions including heart failure, Alzheimer’s disease and cancer. 2) Molecular mechanisms underlying functional and morphological differences between adult and immature hearts and its correlation with drug treatment. 3) Molecular targets responsible for cardiac sudden death and application to drug treatment using iPS-derived cardiomyocytes. 4) Involvement of ionic signaling in pain control and pharmacological approach to relief from pain.	Welcome to Dept. of Pharmacology! Our laboratory specializes in cardiovascular and neuronal pharmacology and physiology. Large amount of evidence suggests that various serious diseases such as heart failure, Alzheimer’s disease and development of cancer are often induced by dysregulation of ionic signals regulated by ion channels, ion transporters and calcium sensors. However, detailed signaling pathways involved in these disease statuses are not fully understood. We focus on the roles of molecules regulating ionic signals, especially calcium signals. We aim to identify the molecular mechanism underlying systemic control of cardiac and neuronal homeostasis via ionic signals; and develop specific drugs that would have the ability to work only under disease conditions but not physiological states. To accomplish these researches, we will use various experimental techniques including molecular biology, electrophysiology, fluorescence imaging, primary culture of cardiomyocytes and iPS-derived cardiomyocytes.
		mail					Recent Publications My working name is Tomoe Y. Nakamura (but not Tomoe Nishitani) Following publications are those from 2015 to 2021. To see more publications, please refer the following websites (https://scholar.google.co.jp/citations?user=SYEk6r8AAAAJ&hl=ja) Original articles 1)伊賀uchi N, Fukazawa Y, Saika A, Uta D, Saika F, Nakamura TY, Ko M, Kishioka S. Chemogenetic activation of central gastrin-releasing peptide-expressing neurons elicits itch-related scratching behavior in male and female mice. Pharmacology Research & Perspectives, 9(3): e00790, 2021. 2)伊賀ika F, Matsuzaki S, Kobayashi D, Ideguchi Y, Nakamura TY, Kishioka, S, Kiguchi N. Chemogenetic Regulation of CX3CR1-Expressing Microglia Using Gi-DREADD Exerts Sex-Dependent Anti-Allodynic Effects in Mouse Models of Neuropathic Pain.

List of courses available for graduate students (Wakayama Medical University)

	Course name (Press the name to jump to the link)	Professor name (Press the name to jump to the link)		Acceptable number of people	Research theme	Massege from Professor
						<p>3) Shigeo Nakamura TY*, Shu Nakao, Shigeo wakabayashi. Emerging Roles of neuronal Ca2+ Sensor-1 in Cardiac and neuronal Tissues. Front. Mol. Neurosci. 2019 12:56.</p> <p>4) Shigeo Nakamura TY*, Nakao S, Nakajo Y, Takahashi JC, Wakabayashi S, Yanamoto H: Possible Signaling Pathways Mediating Neuronal Calcium Sensor-1-Dependent Spatial Learning and Memory in Mice. PLoS ONE, 2017 12(1) e0170829.</p> <p>5) Shigeo Nakamura TY*, Nakao S, Wakabayashi S. Neuronal Ca2+ sensor-1 contributes to stress tolerance in cardiomyocytes via activation of mitochondrial detoxification pathways. J. Mol Cell Cardiol. 2016 99:23-34.</p> <p>6) Shigeo bayashi S, Nakamura TY, Wakabayashi S*. Calcineurin B homologous protein 3 negatively regulates cardiomyocyte hypertrophy via inhibition of glycogen synthase kinase 3 phosphorylation.</p>