KAGOSHIMA UNIVERSITY
Department of Biochemistry and Molecular Biology
Graduate School of Medical and Dental Sciences
Sakuragaoka, Kagoshima 890-8544, JAPAN

医歯学総合研究科　生体機能制御学講座
生化学･分子生物学分野　セミナー

日時：2019年4月18日(木) 17:00～18:00
場所：共通教育棟502号室

“Attenuation of contextual fear requires the dorsal area CA1”

Kasia Radwanska, Ph.D
Associate Professor
Laboratory of Molecular Basis of Behavior
Nencki Institute of Experimental Biology of
Polish Academy of Science

Post-synaptic scaffolding protein, PSD-95, is critical for synaptic maturation and plasticity, as well as attenuation and long-term stability of fear memories. Here, we focus on the possible role of PSD-95 in the reduction of contextual fear in mice. Our data suggests that consolidation of contextual fear attenuation requires down-regulation of PSD-95 protein in the dorsal area CA1. Both consolidation of attenuated fear memories and depletion of PSD-95 protein entail phosphorylation of alpha isoform of calcium and calmodulin-dependent kinase II at threonine 286 (αCaMKII:T286) and CaMKII-driven phosphorylation of PSD-95 at serine 73. Furthermore, chemogenetic inhibition of the nucleus reuniens reveals that the activity of this structure tamps down attenuation of fear and reduction of PSD-95 levels in the CA1, that occur during safety learning. Altogether our data pin down for the first time a specific molecular process that contributes to consolidation of contextual fear attenuation in the dorsal CA1. Understanding molecular processes that promote attenuation of fear may result in new therapies of anxiety disorders.

Radwanska 先生は動物行動学、電気生理学、分子生物学などの技法を駆使し、薬物依存および情動記憶に関する研究を行っている気鋭の研究者です。この度、共同研究のため鹿児島大にお越しいただいたので、セミナーを行っていただきます。大学院生、教員を問わず広く参加を歓迎いたしますので奮ってご参加ください。
問い合わせ先：生化学・分子生物学分野　奥野
(内線 5246 または okuno@m.kufm.kagoshima-u.ac.jp)

本講演は英語で行われます。（This talk will be given in English）