

BALÁZS GASZNER



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RESEARCH AREA

Animal models of depression and anxiety. Functional neuromorphological background of mood disorders. Neuropeptidergic mechanisms underlying stress adaptation. The role of the corticotropin-releasing hormone peptide family in stress adaptation and energy balance: forebrain (nucleus interstitialis striae terminalis, nucleus centralis amygdalae) and hypothalamic corticotropin-releasing hormone systems, urocortin 1 (centrally projecting Edinger-Westphal nucleus). Investigation of the neuropeptidergic mechanisms underlying the non-motor symptoms of Parkinson's disease (corticotropin-releasing hormone and related peptidergic systems, dopaminergic, serotonergic, noradrenergic circuits). Investigation of the epigenetic and functional neuromorphological mechanisms underlying individual differences in stress adaptation ability.

TECHNIQUES AVAILABLE IN THE LAB

Open field test, tail suspension test, marble burying test, light-dark box test, forced swim test, rotarod test, transcardiac perfusion, tissue preparation, histological preparation, human and rodent (neuro)anatomy, basic histological techniques fixation, embedding, sectioning, basic histological staining, immunolabelling, RNAscope in situ hybridization, confocal microscopy, morphometry, digital image analysis, image editing.

SELECTED PUBLICATIONS

Kovács, L. Á., Berta, G., Csernus, V., Ujvári, B., Füredi, N., **Gaszner, B.** (2019) Corticotropin-Releasing Factor-Producing Cells in the Paraventricular Nucleus of the Hypothalamus and Extended Amygdala Show Age-Dependent FOS and FOSB/DeltaFOSB Immunoreactivity in Acute and Chronic Stress Models in the Rat. **Front Aging Neurosci** **274**: 19.

Gaszner, T., Farkas, J., Kun, D., Ujvári, B., Berta, G., Csernus, V., Füredi, N., Kovács, L. Á., Hashimoto, H., Reglődi, D., Kormos, V., Gaszner, B. (2022) Fluoxetine treatment supports predictive validity of the three hit model of depression in male PACAP heterozygous mice and underpins the impact of early life adversity on therapeutic efficacy. **Front Endocrinol** **13**: 23.

Kormos, V., Kecskés, A., Farkas, J., Gaszner, T., Csernus, V., Alomari, A., Hegedüs, D., Renner, É., Palkovits, M., Zelena, D., Helyes, Z., Pintér, E., **Gaszner, B.** (2022) Peptidergic neurons of the Edinger–Westphal nucleus express TRPA1 ion channel that is downregulated both upon chronic variable mild stress in male mice and in humans who died by suicide. **J Psychiatry Neurosci** **47**: 14.

Kovács, L. Á., Füredi, N., Ujvári, B., Golgol, A., **Gaszner, B.** (2022) Age-Dependent FOSB/ Δ FOSB Response to Acute and Chronic Stress in the Extended Amygdala, Hypothalamic Paraventricular, Habenular, Centrally-Projecting Edinger-Westphal, and Dorsal Raphe Nuclei in Male Rats. **Front Aging Neurosci** **14**: 24.

Ujvári, B., Pytel, B., Márton, Z., Bognár, M., Kovács, L. Á., Farkas, J., Gaszner, T., Berta, G., Kecskés, A., Kormos, V., Farkas, B., Füredi, N., **Gaszner, B.** (2022) Neurodegeneration in the centrally-projecting Edinger–Westphal nucleus contributes to the non-motor symptoms of Parkinson's disease in the rat. **J Neuroinflammation** **19**: 31.