Pracownia Neurofizjologii i Neurochemii

Granty aktualnie realizowane:

NCN Preludium 18 – mgr J. Ruciński (2021)

Projekty badawcze młodych naukowców – mgr A. Piwka (2021)

Wybrane publikacje pracowników:

A. prace zespołu:

1. Animal Use in Neurobiological Research. **Żakowski W.** Neuroscience. 2020;433:1-10. doi: 10.1016/j.neuroscience.2020.02.049. Review.
2. NMDA receptor modulation of the pedunculopontine tegmental nucleus underlies the motivational drive for feeding induced by midbrain dopaminergic neurons. **Jerzemowska G**, Plucińska K, **Piwka A**, Ptaszek K, Podlacha M, **Orzeł-Gryglewska J**. Brain Res. 2019;1715:134-147. doi: 10.1016/j.brainres.2019.03.028.
3. Activity of tyrosine hydroxylase and C-Fos protein in the retrorubral field in rats with differential novelty-induced locomotion. **Jerzemowska G,** Plucińska K, Ptaszek K, **Piwka A**, **Orzeł-Gryglewska J**. Neuropsychiatry. 2018; 8(4):1391-1399. doi: 10.4172/Neuropsychiatry.1000469.
4. The effect of pharmacological inactivation of the mammillary body and anterior thalamic nuclei on hippocampal theta rhythm in urethane-anesthetized rats. **Żakowski W**, Zawistowski P, Braszka Ł, Jurkowlaniec E. Neuroscience. 2017;362:196-205. doi: 10.1016/j.neuroscience.2017.08.043.
5. Neurochemistry of the Anterior Thalamic Nuclei. **Żakowski W.** Mol Neurobiol. 2017;54(7):5248-5263. doi: 10.1007/s12035-016-0077-y. Review.
6. Inactivation of the medial mammillary nucleus attenuates theta rhythm activity in the hippocampus in urethane-anesthetized rats. **Żakowski W**, Braszka Ł, Zawistowski P, **Orzeł-Gryglewska J**, Jurkowlaniec E. Neurosci Lett. 2017;645:19-24. doi: 10.1016/j.neulet.2017.02.057.
7. Hypothalamic and midbrain cells, tyrosine hydroxylase and implications for drug addiction. In: The Neuropathology Of Drug Addictions And Substance Misuse, Neuropathology of Addiction, (Ed. V.R.Preedy), **Jerzemowska G.** Academic Press, London, 2016; 3(7):71-81. doi: 10.1016/b978-0-12-800634-4.00007-x.
8. Brainstem system of hippocampal theta induction: The role of the ventral tegmental area. **Orzeł-Gryglewska J, Matulewicz P**, Jurkowlaniec E. Synapse. 2015;69(11):553-75. doi: 10.1002/syn.21843. Review.
9. Hippocampal theta rhythm after local administration of procaine or amphetamine into the ventral tegmental area in fear conditioned rats. **Matulewicz P**, **Orzeł-Gryglewska J**, Braszka Ł, Zawistowski P, Jurkowlaniec E. Neurosci Lett. 2015;589:132-7. doi: 10.1016/j.neulet.2015.01.049.
10. NMDA-glutamatergic activation of the ventral tegmental area induces hippocampal theta rhythm in anesthetized rats. **Matulewicz P, Orzeł-Gryglewska J**, Kuśmierczak M, Jurkowlaniec E. Brain Res Bull. 2014;107:43-53. doi: 10.1016/j.brainresbull.2014.06.001.
11. Theta activity in local field potential of the ventral tegmental area in sleeping and waking rats. **Orzeł-Gryglewska J, Matulewicz P**, Jurkowlaniec E. Behav Brain Res. 2014;265:84-92. doi: 10.1016/j.bbr.2014.02.023.
12. Locomotor response to novelty correlates with differences in number and morphology of hypothalamic tyrosine hydroxylase positive cells in rats. **Jerzemowska G**, Plucińska K, Kuśmierczak M, Myślińska D, **Orzeł-Gryglewska J**. Brain Res Bull. 2014;101:26-36. doi: 10.1016/j.brainresbull.2013.12.009.
13. Dopaminergic transmission in the midbrain ventral tegmental area in the induction of hippocampal theta rhythm. **Orzeł-Gryglewska J**, Kuśmierczak M, **Matulewicz P**, Jurkowlaniec E. Brain Res. 2013;1510:63-77. doi: 10.1016/j.brainres.2013.03.021.
14. Hippocampal theta rhythm induced by rostral pontine nucleus stimulation in the conditions of pedunculopontine tegmental nucleus inactivation. **Matulewicz P**, Kuśmierczak M, **Orzeł-Gryglewska J**, Jurkowlaniec E. Brain Res Bull. 2013;96:10-8. doi: 10.1016/j.brainresbull.2013.04.005.
15. Behavioral response elicited by stimulation of the mesolimbic system after procaine and bicuculline injection into the pedunculopontine tegmental nucleus in rats. **Jerzemowska G**, Plucińska K, Majkutewicz I, **Orzeł-Gryglewska J**, Trojniar W. Behav Brain Res. 2013;241:161-72. doi: 10.1016/j.bbr.2012.12.012.

16. Induction of hippocampal theta rhythm by electrical stimulation of the ventral tegmental area and its loss after septum inactivation. **Orzeł-Gryglewska J,** Kuśmierczak M, Majkutewicz I, Jurkowlaniec E. Brain Res. 2012;1436:51-67. doi: 10.1016/j.brainres.2011.12.003.
17. Locomotor response to novelty correlates with the number of midbrain tyrosine hydroxylase positive cells in rats. **Jerzemowska G**, Plucińska K, Kulikowski M, Trojniar W, Wrona D. Brain Res Bull. 2012;87(1):94-102. doi: 10.1016/j.brainresbull.2011.10.014.

B. prace wykonane we współpracy z innymi zespołami:

18. Proximal perimeter encoding in the rat rostral thalamus. **Matulewicz P**, Ulrich K, Islam MN, Mathiasen ML, Aggleton JP, O'Mara SM. Sci Rep. 2019;9(1):2865. doi: 10.1038/s41598-019-39396-8.
19. Dimethyl fumarate attenuates intracerebroventricular streptozotocin-induced spatial memory impairment and hippocampal neurodegeneration in rats. Majkutewicz I, **Kurowska E**, Podlacha M, Myślińska D, Grembecka B, **Ruciński J**, Plucińska K, **Jerzemowska G**, Wrona D. Behav Brain Res. 2016;308:24-37. doi: 10.1016/j.bbr.2016.04.012.
20. NMDA receptor antagonist-enhanced high frequency oscillations: are they generated broadly or regionally specific? Olszewski M, Dolowa W, **Matulewicz P**, Kasicki S, Hunt MJ. Eur Neuropsychopharmacol. 2013;23(12):1795-805. doi: 10.1016/j.euroneuro.2013.01.012.
21. Subthalamic Deep Brain Stimulation Affects Plasma Corticosterone Concentration and Peripheral Immunity Changes in Rat Model of Parkinson's Disease. Grembecka B, Glac W, Listowska M, **Jerzemowska G**, Plucińska K, Majkutewicz I, Badtke P, Wrona D. J Neuroimmune Pharmacol. 2021;16(2):454-469. doi: 10.1007/s11481-020-09934-7.
22. Medial Septal NMDA Glutamate Receptors are Involved in Modulation of Blood Natural Killer Cell Activity in Rats. Podlacha M, Glac W, Listowska M, Grembecka B, Majkutewicz I, Myślińska D, Plucińska K, **Jerzemowska G**, Grzybowska M, Wrona D. J Neuroimmune Pharmacol. 2016;11(1):121-32. doi: 10.1007/s11481-015-9632-y.
23. Stress-induced differences in the limbic system Fos expression are more pronounced in rats differing in responsiveness to novelty than social position. Majkutewicz I, Myślińska D, **Jerzemowska G**, Plucińska K, Listowska M, Grembecka B, Podlacha M, Wrona D. Brain Res Bull. 2012;89(1-2):31-40. doi: 10.1016/j.brainresbull.2012.06.011.