



Research topic - Social Neurobiology

Our objective is to determine the neuronal networks controlling social behaviours often using maternal care as a model. We also aim to identify the role of neurons in the network using chemogetic approaches. In addition, the molecular alterations taking place in the identified neurons are also addressed using genomics and proteomics techniques.

Recent publications in the topic:

Dobolyi A, Lékó AH. (2019) The insulin-like growth factor-1 system in the adult mammalian brain and its implications in central maternal adaptations. *Front Neuroendocrinol.* 52:181-194. doi: 10.1016/j.yfrne.2018.12.002.

Udvari EB, Völgyi K, Kékesi AK, Simon D, Hunyadi-Gulyás E, **Dobolyi A** (2019) Proteomic analysis of the maternal preoptic area in rats. *Neurochem Res.* doi: 10.1007/s11064-019-02755-y.

Olah S, Cservenák M, Keller D, Fazekas EA, Renner E, Low P, **Dobolyi A**. (2018) Prolactin-induced and neuronal activation in the brain of mother mice. *Brain Struct Funct.* 223:3229-3250. doi: 10.1007/s00429-018-1686-1.

Bardóczi Z, Wilhelm T, Skrapits K, Hrabovszky E, Rácz G, Mátolcsy A, Liposits Z, Sliwowska JH, **Dobolyi A**, Kalló I. (2018) GnRH neurons provide direct input to hypothalamic tyrosine hydroxylase immunoreactive neurons which is maintained during lactation. *Front Endocrinol (Lausanne).* 9:685. doi: 10.3389/fendo.2018.00685.

Dobolyi A*. Cservenák M, Young LJ. (2018) Thalamic integration of social stimuli regulating parental behavior and the oxytocin system. *Front Neuroendocrinol.* 51:102-115. doi: 10.1016/j.yfrne.2018.05.002.

Gerecsei LI, Csillag A, Zachar G, Gévai L, Simon L, **Dobolyi Á**, **Ádám Á**. (2018) Gestational exposure of the synthetic cathinone methylenedioxypropylone results in reduced maternal care and behavioral alterations in mouse pups. *Front Neurosci.* 12:27. doi: 10.3389/fnins.2018.00027.

Barna J, Renner E, Arszovszki A, Cservenák M, Kovács Z, Palkovits M, **Dobolyi A**. (2018) Suckling induced activation pattern in the brain of rat pups. *Nutr Neurosci.* 21:317-327. doi: 10.1080/1028415X.2017.1286446.

Lékó AH, Cservenák M, Szabó ÉR, Hanics J, Alpár A, **Dobolyi A** (2017) Insulin-like growth factor I and its binding protein-3 are regulators of lactation and maternal responsiveness. *Sci Rep.* 7:3396. doi: 10.1038/s41598-017-03645-5.

Lékó AH, Cservenák M, **Dobolyi A** (2017) Suckling induced insulin-like growth factor-1 (IGF-1) release in mother rats. *Growth Horm IGF Res.* 37:7-12. doi: 10.1016/j.ghir.2017.10.003.

Cservenák M, Keller D, Kis V, Fazekas EA, Öllös H, Lékó A, Szabó ÉR, Renner É, Usdin TB, Palkovits M, **Dobolyi A**. (2017) A thalamo-hypothalamic pathway that activates oxytocin neurons in social contexts in female rats. *Endocrinology.* 158:335-348. doi: 10.1210/en.2016-1645.

Gellén B, Zelena D, Usdin TB, **Dobolyi A**. (2017) The parathyroid hormone 2 receptor participates in physiological and behavioral alterations of mother mice. *Physiol Behav.* 181:51-58. doi: 10.1016/j.physbeh.2017.09.005.

Udvari EB, Völgyi K, Gulyássy P, Dumén D, Kis V, Barna J, Szabó ÉR, Lubec G, Juhász Gm Kékesi KA, **Dobolyi A**. (2017) Synaptic proteome changes in the hypothalamus of mother rats. *J Proteomics.* 159:54-66. doi: 10.1016/j.jprot.2017.03.006.

Cservenák M, Kis V, Keller D, Dimén D, Menyhárt L, Oláh S, Szabó ÉR, Barna J, Renner É, Usdin TB, **Dobolyi A**. (2017) Maternally involved galanin neurons in the preoptic area of the rat. *Brain Struct Funct.* 222:781–798. doi: 10.1007/s00429-016-1246-5.

Kovács Z, Krisztina Lakatos R, Barna J, **Dobolyi A**. (2017) Absence epileptic activity in Wistar Albino Glaxo Rijswijk rat mothers. *Brain Res.* 1657:368-376. doi: 10.1016/j.brainres.2017.01.005.

Völgyi K, Udvari EB, Szabó ÉR, Györffy BA, Hunyadi-Gulyás É, Medzihradsky K, Juhász G, Kékesi KA, **Dobolyi A**. (2017) Maternal alterations in the proteome of the medial prefrontal cortex in rat. *J Proteomics.* 153:65-77. doi: 10.1016/j.jprot.2016.05.013.