

## **P2.27.**

### **Organization of extracellular matrix in the brainstem of chicken embryo**

Gaál, B.<sup>1\*</sup>; Kecskes, S.<sup>2</sup>; Matesz, K.<sup>1,2</sup>

*1: Department of Anatomy, Histology and Embryology, Medical and Health Science Center, University of Debrecen, Debrecen, Hungary*

*2: HAS-UD Neuroscience Research Group H-4012 Debrecen, Hungary*

Soon after hatching, the young chicken (*Gallus domesticus* L.) is able to walk, see, chirp, and feed itself, like all precocial avians. These behavioural actions require the early development of CNS areas responsible for basic motor actions, sensory functions and homeostasis. Previous studies revealed, that the macromolecules of the extracellular matrix (ECM) around neurons highly influence their activity, and vice-versa. The aim of the present study is to investigate the development of the ECM assembly around neurons related to the motor coordination in the brainstem of chicken embryos. We gained chicken embryos by aborting incubation at certain developmental stages. After fixation, paraffin embedding and sectioning, on the slides histochemistry and immunohistochemistry was performed to identify the ECM components present: Cat-315, TN-R, HAPLN1, WFA (general CSPG marker) and b-HABP. Reactions were visualized by DAB reaction. Strong EC aggrecan condensation was seen from E7 stage, in caudorostral ascending gradient. In stages E9 and E11, massive aggrecan and TN-R condensation was seen in inferior olive, cerebellar nuclei, red nucleus, hypothalamus-pituitary complex. HAPLN1 showed in none. These findings suggest that the strongest ECM was seen at areas responsible for posture and gaze, feed, homeostasis, motor and psychomotor, and sensory functions, which might be the character of precocial birds.

*The present work was supported by MTA TKI 242, and OTKA K67641.*