



HRVATSKO MIKROSKOPIJSKO DRUŠTVO

POZIV NA 247. SASTANAK

Hrvatskog mikroskopijskog društva, koji će se održati u prostorijama
Instituta „Ruđer Bošković“, Bijenička cesta 54, predavaonica I. krila, u

četvrtak, 23. svibnja 2019. u 16:00 sati
u organizaciji Andreje Gajović, IRB

uz sljedeći

Dnevni red:

1. Izlaganja stipendista HMD-a na skupovima u 2018.:

Ivana Restović (Filozofski fakultet Sv. u Splitu): Time course and
expression pattern of the neuronal markers in the developing human
spinal cord

Nives Kević (PMF Sv. u Splitu): EMBO practical course Correlative
light electron microscopy

2. Razno

Tajnica:
Jelena Macan

Predsjednica:
Andreja Gajović

Time course and expression pattern of the neuronal markers in the developing human spinal cord

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Abstract

The aim of this study was to examine the spatio-temporal appearance of different neuronal cell subtypes by analyzing expression patterns of several neuronal markers (calretinin, neurofilament 200 (NF200), vanilloid receptor 1 (VR1) and calcitonin gene-related peptide (CGRP)) of the embryonic human spinal cord (SC). Developing human SCs from 11 human conceptuses between 5–10 developmental weeks (DW) were examined by light and electron microscopy and immunofluorescence. Light and electron microscopy revealed different embryonic stages of recognizable structure of the SC. NF200, CGRP and VR1 positive cells were observed in SCs during 5th–6th DW. NF200 was predominantly expressed in the ventral part, indicating presence of motoneurons. As development advanced, NF200 was mainly expressed in the marginal zone. Expression of CGRP was intense during all of the investigated periods, predominantly during the 5th–6th DW pointing to neural sensory differentiation, as opposed to the last DW when reduced expression of CGRP in the marginal layer indicated the terminations of the sensory afferents. Expression of VR1 was highest in the intermediate zone, at the beginning and at the end of the investigated periods, pointing to VR1 spatial pattern in the visceral afferents in the grey matter, while the first signs of calretinin were found in the 9th–10th DW ventrally. Delineating the relationships between factors involved in processes of neuronal differentiation as well as spatial and temporal arrangement of SC interrelated neurons can provide a useful information about normal SC development as well as the insight in possible causes of anomalies and disorders during embryonic life.

Keywords:

Human embryo, Spinal cord, Calretinin, NF200, CGRP, VR1

EMBO practical course Correlative light electron microscopy

EMBO practical course Correlative light electron microscopy (CLEM) održao se 23.-28. rujna 2018. u Bristolu, Ujedinjeno Kraljevstvo. Tečaj se održao na Wolfson Bioimaging Facility, u Biomedical Sciences Building na University of Bristol. Tečaj ima višegodišnje iskustvo i pozitivne studentske komentare u predavanju CLEM metode, dok posljednje 4 godine ga financira europska molekularna biološka organizacija (EMBO).

CLEM tehnika uspješno kombinira slike dobivene fluorescencijskim svjetlosnim i elektronskim mikroskopom za što uspješniji i detaljniji rezultat. Ovaj tečaj je namjenjen mladim istraživačima i pruža im teorijsko i praktično znanje iskusnih predavača u ovoj tehnici u području prirodnih znanosti (biologija).

Na tečaju se raspravljalo o Tokuyasu CLEM metodi, High pressure Freezing CLEM, High precision CLEM metodi, Cryo CLEM, 3D CLEM and targeting, Volume CLEM, APEX tehnologiji and pre-embedment CLEM metodi. Kroz tečaj studenti su dobili praktično znanje iz spomenutih metoda, gdje su se poticali da ospore tehnike, predlože alternative i raspravljaju o tome kako se CLEM može primijeniti na njihova specifična istraživačka pitanja. Veliki dio posla odvijao se u malim grupama, s predavačima iz glavnih laboratorija koji su razvili CLEM tehnike u posljednjem desetljeću.