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European Journal of Histochemistry
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The *European Journal of Histochemistry* was founded in 1954 by Maffo Vialli and published till 1979 under the title of *Rivista di Istochimica Normale e Patologica*, from 1980 to 1990 as *Basic and Applied Histochemistry* and in 1991 as *European Journal of Basic and Applied Histochemistry*. It is now published under the auspices of the University of Pavia, Italy.
The *European Journal of Histochemistry* is the official organ of the Italian Society of Histochemistry and a member of the journal subcommittee of the International Federation of Societies for Histochemistry and Cytochemistry (IFSHC), and has been an influential cytology journal for over 60 years, publishing research articles on functional cytology and histology in animals and plants.

The Journal publishes Original Papers, Technical Reports, Reviews, Brief Reports, Letters to the Editor, Views and Comments, and Book Reviews concerning investigations by histochemical and immunohistochemical methods, and performed with the aid of light, super-resolution and electron microscopy, cytometry and imaging techniques; attention is also given to articles on newly developed or originally applied histochemical and microscopical techniques.

Coverage extends to:
- functional cell and tissue biology in animals and plants;
- cell differentiation and death;
- cell-cell interaction and molecular trafficking;
- biology of cell development and senescence;
- nerve and muscle cell biology;
- cellular basis of diseases.

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POSTERS SESSION

INVESTIGATING THE WHITE MATTER SUBSTRATES OF FUNCTIONAL CONNECTIVITY DYNAMICS

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The comprehensive characterization of brain connectivity is one of the main aims of modern neurosciences. Along with structural and functional connectivity, dynamic connectivity, which quantifies the fluctuations in functional connectivity between brain areas in a given time window, has gained increasing importance in recent years as a promising tool to investigate brain activity. While several studies have focused on the relationship between structural and functional connectivity, the contribution of structural connectivity to functional connectivity dynamics is still far from being fully elucidated. Track-weighted dynamic functional connectivity (tw-dFC) has been recently proposed as a method to achieve a joint analysis of structural and dynamic functional connectivity: in this framework, information deriving from resting-state fMRI is windowed and functional connectivity from each time window is mapped on subject-specific priors derived from tractography. In the present work, we applied this framework on 210 healthy subject's high spatial and temporal resolution DWI and resting state fMRI (rs-fMRI) data from the Human Connectome Project (HCP) repository. The tw-dFC maps were analyzed using an independent component analysis (ICA) approach, aiming at identifying consistent, spatially independent white matter components which support dynamic changes in functional connectivity. Spatial ICA of tw-dFC data resulted in a series of well-recognizable, anatomically meaningful patterns of white matter connectivity. Each component consisted of a white matter spatial map, which represents the spatial distribution of white matter bundles, which show consistent fluctuations in functional connectivity at their endpoints, and a time course representative of the functional connectivity fluctuations occurring along these tracts. White matter spatial maps showed striking similarity to known functional networks derived from rs-fMRI, while their time courses showed specific patterns of correlation between components, revealing functionally meaningful clusters with tightly related activity. Along with providing an unsupervised, functional classification of the brain white matter, our results suggest that dynamic fluctuations in functional connectivity are supported by specific, anatomically defined white matter bundles, and shed new light on the organization of brain connectivity at both structural and functional level.

PERINATAL EXPOSURE TO BISPHENOL A OR S ALTERS ANXIETY-RELATED BEHAVIORS AND SEROTONINERGIC SYSTEM IN MICE

Bonaldo B.[1,2], Casile A.[1], Ostuni M.T.[1], Bettarelli M.[1], Gotti S.[1,2], Marraudino M.[1], Panzica G.[1,2]

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Bisphenols (BPs), organic synthetic compound used in the production of plastics, are an extremely abundant class of Endocrine Disrupting Chemicals, *i.e.*, exogenous chemicals, or mixture of chemicals, that can interfere with any aspect of hormone action. Exposure to BPs can led to a wide range of effects and it is especially dangerous if it occurs during specific *critical periods* of life. Focusing on the effects of perinatal exposure to BPA or to its largely used substitute BPS, we treated C57BL/6 dams orally with a dose of 4 µg/kg body weight/day (*i.e.*, EFSA Tolerable Daily Intake dose) of BPA or BPS dissolved in corn oil or with vehicle alone, starting with mating and continuing until the weaning of the offspring. In adulthood (PND90), the offspring of both sexes performed the elevated plus maze (EPM) and the open field (OF) tests. During the EPM test, BPA-treated males showed a significant increase in the time spent in the open arms compared to controls and a decrease of the latency of the first enter in the open arms that was also displayed by BPS-treated males, while BPA-treated females showed a significant decrease in time spent in open arms compared to the controls. During the OF test, BPA- and BPS-treated males spent more time in the center of the arena and less time in the border compared to control males, while BPA- and BPS-treated females spent less time in the center and more time in arena compared to the control female. These behavioral alterations suggested different effects of the BPs exposure on anxiety-related behavior in males (anxiolytic) and females (anxiogenic), Therefore, we analyzed the serotoninergic system in Raphe nucleus, which is highly involved in the control of anxiety-related behavior. We performed an immunohistochemical analysis of the serotonin immunoreactivity (5-HT-ir), both in terms of number of cells and fractional area covered by the immunopositive elements, in the dorsal raphe (DR), distinguishing its dorsal (DRD) and ventral (DRV) component, and in the median raphe (MnR). In control mice, we detected sex dimorphism of the system in the DR only, with control females showing higher values of 5-HT-ir when compared to control males. BPA-treated males displayed a significant increase of 5-HT-ir in all analyzed nuclei, whereas BPS-treated males showed an increase in DRV only. In females, both BPA- and BPS-treated groups showed a significant increase of 5-HT-ir in DRD compared to the controls, and BPA-treated females also showed a significant increase in MnR. In conclusion, BPs exposure during early phases of life is altering, in sexually differentiated way, both anxiety-related behaviour and the Raphe population of serotonin, which is involved in the control of this behaviour.

USING A 3D APPROACH TO DESCRIBE CELL POPULATIONS IN THE RAT DRG

Rodriguez-Menendez V.[1], Ballarini E.[1], Pozzi E.[1], Chiorazzi A.[1], Oggioni N.[1], Bossi M.[1] Marmiroli P.[2], Salio C.[3] , Ferrini F.[3], Carozzi V.[1]

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Dorsal root ganglia (DRG) sensitive neurons represent the connection between the peripheral sensorial receptors and the central nervous system. These neurons are enwrapped individually by the satellite glial cells (SCGs) from which they receive metabolic support. Together, neuron and SCGs, become a functional unit that, in absence of the blood brain barrier, is easily exposed to external stress and damage insults. This intimate connection/relationship, both morphological and functional, can be partially pictured and studied following traditional slicing 2D histopathological techniques. Indeed, morphological cellular and