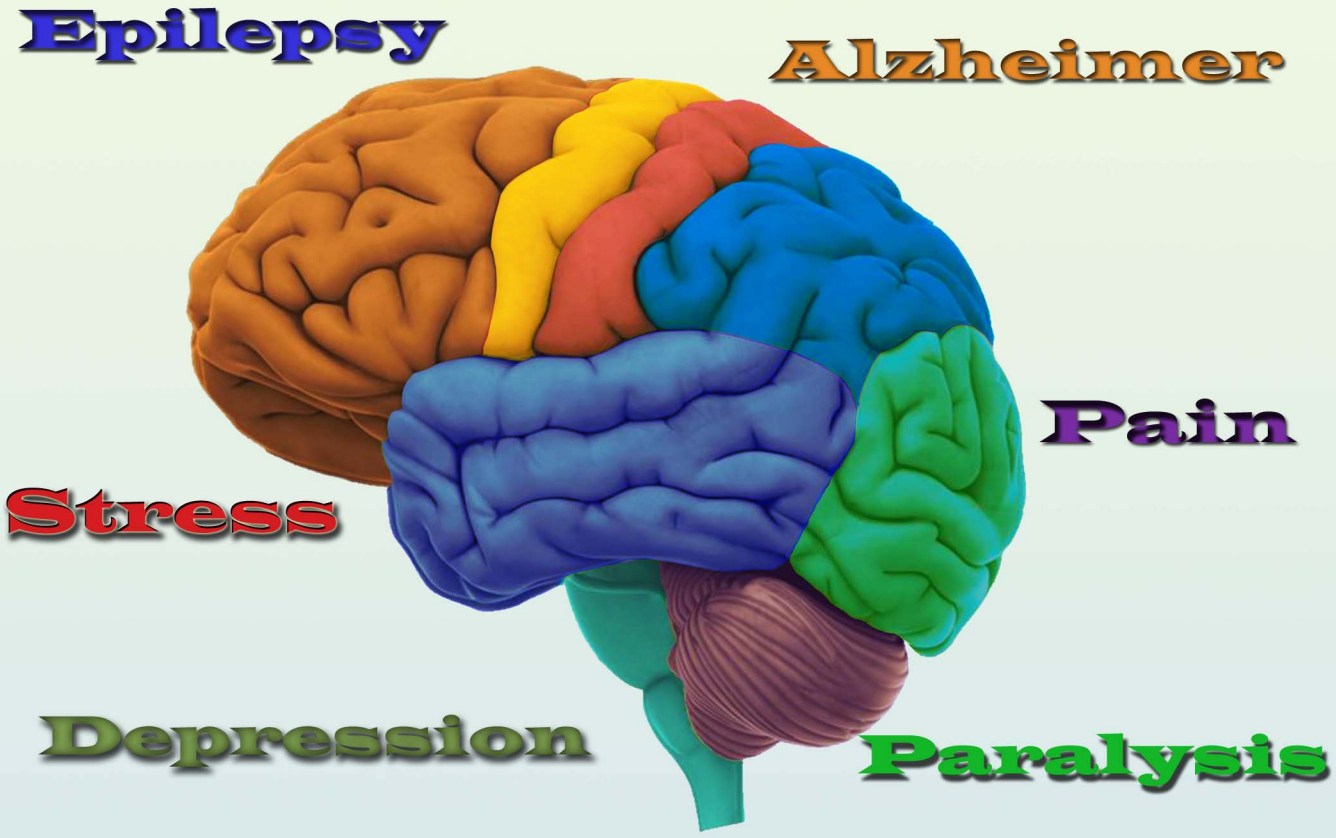
E-ISSN: 2149-7222 (Online)

Journal Cellular Neuroscience and Oxidative Stress

http://dergipark.gov.tr/jcnos

Former name; Cell Membranes and Free Radical Research



Brain Research School

OPEN ACCESS and NO PUBLICATION FEE

Supp 1 Volume, 2019

4th International Brain Research School

24-30 June 2019 Isparta /TURKEY

2019.brs.org.tr

Journal of Cellular Neuroscience and Oxidative Stress

http://dergipark.gov.tr/jcnos

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Formerly known as:

Cell Membranes and Free Radical Research (2008 - 2014)

Supp 1 Volume, 2019

Supp 1 Volume, 2019
E-ISSN Number: 2149-7222 (Online)
Indexing: Google Scholar, Index Copernicus, Chemical Abstracts, Scopus (Elsevier),
EBSCOhost Research Database, Citation Index Database,

AIM AND SCOPES
Journal of Cellular Neuroscience and Oxidative Stress is an online journal that publishes original research articles, reviews and short reviews on the molecular basis of biophysical, physiological and pharmacological processes that regulate cellular function, and the control or alteration of these processes by the action of receptors, neurotransmitters, second messengers, cation, anions, drugs or disease.

Areas of particular interest are four topics. They are;

A- Ion Channels (Na^+- K^+ Channels, Cl^- channels, Ca^{2+} channels, ADP-Ribose and metabolism of NAD^+, Patch-Clamp applications)

B- Oxidative Stress (Antioxidant vitamins, antioxidant enzymes, metabolism of nitric oxide, oxidative stress, biophysics, biochemistry and physiology of free oxygen radicals)

C- Interaction Between Oxidative Stress and Ion Channels in Neuroscience
(Effects of the oxidative stress on the activation of the voltage sensitive cation channels, effect of ADP-Ribose and NAD^+ on activation of the cation channels which are sensitive to voltage, effect of the oxidative stress on activation of the TRP channels in neurodegenerative diseases such Parkinson's and Alzheimer's diseases)

D- Gene and Oxidative Stress
(Gene abnormalities. Interaction between gene and free radicals. Gene anomalies and iron. Role of radiation and cancer on gene polymorphism)

READERSHIP

Biophysics	Biochemistry
Biology	Biomedical Engineering
Pharmacology	PhysiologyGenetics
Cardiology	Neurology
Oncology	Psychiatry
Neuroscience	Neuropharmacology

Keywords
Ion channels, cell biochemistry, biophysics, calcium signaling, cellular function, cellular physiology, metabolism, apoptosis, lipid peroxidation, nitric oxide, ageing, antioxidants, neuropathy, traumatic brain injury, pain, spinal cord injury, Alzheimer's Disease, Parkinson's Disease.

4th International Brain Research School

Abstract Book

of

4th International Brain Research School

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Isparta, Turkey

with collaboration of

BSN Health Analyses, Innovation, Consultancy, Organization, Industry and Trade Limited Company

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Oral Presentations

Oral Presentations

Oral Presentation 6

Ischemic stroke models in adult experimental animals

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Hypoxic-ischemia is containing complex physiological, molecular and biochemical pathways and it is induced by lack of oxygen supply to the brain. Hypoxic ischemia induces severe brain injury in adults and newborns. Pathophysiology of ischemic stroke involves oxidative stress, mitochondrial energy production failure, excessive Ca^{2+} influx and apoptosis (Akpınar, et al., 2016). Investigation of the traumatic brain injuries in the subject are difficult due to ethical restrictions. Therefore, the animal models have great importance for the clarifying etiology of the ischemic stroke-induced brain injuries. However, there are differences between human rodent brains. Notable difference between the human and rodent is presence of developing brain (Gennaro et al. 2019). In experimental animals, the best model of induction of hypoxic cerebral ischemic stroke is occlusion of the middle cerebral artery for 30-60 min (Gennaro et al. 2019). In addition to the best model, there are also other models of hypoxic cerebral stroke in rodents such as hypoxia-ischemia, thrombotic ischemia, vasoconstriction. Endothelin 1 and the distal artery compression models (Gennaro et al. 2019; Hermann et al. 2019). In this presentation, I summarized the models currently used to investigate the human developmental ischemic stroke, describing their advantages and limitations.

Keywords: Brain injury; Hypoxic cerebral ischemic stroke model; Rodents; Oxidative stress.

References

Akpınar H, Nazıroğlu M, Övey İS, Çiğ B, Akpınar O. 2016. The neuroprotective action of dexmedetomidine on apoptosis, calcium entry and oxidative stress in cerebral ischemia-induced rats: Contribution of TRPM2 and TRPV1 channels. Sci Rep. 6:37196.

Gennaro M, Mattiello A, Pizzorusso T. 2019. Rodent models of developmental ischemic stroke for translational research: Strengths and weaknesses. Neural Plast. 2019:5089321.

Hermann DM, Popa-Wagner A, Kleinschnitz C, Doeppner TR. 2019. Animal models of ischemic stroke and their impact on drug discovery. Expert Opin Drug Discov. 14(3):315-326.