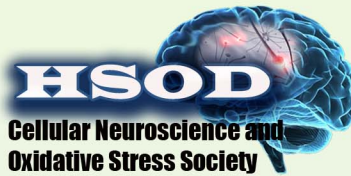


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Epilepsy

Alzheimer

Stress

Pain

Depression

Paralysis

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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, Ca²⁺ 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)

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Biophysics	Biochemistry
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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.

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▶ **Speak No. 3**

Western-blot, PCR and immunofluorescence analysis in mitochondrial biogenesis studies

Denis ROUSSEAU

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Mitochondria are providing an essential amount of energy to the cell, to achieve in homeostasis, metabolic increases, proliferation and differentiation processes. Also, mitochondrial deficiencies have severe or lethal impacts on cell viability. Among the 3000 proteins involved in mitochondrial activities, ATAD3 is a major one as essential for mitochondrial biogenesis, vital as early as embryonic implantation.

In order to see its impact at animal level, we have used ATAD3^{+/-} mice to investigate its role in running training and in high calorie diet.

We found here that ATAD3 expression level avoids running capacity improvement and has a strong effect on weight increase, underlying its important role in mitochondrial mass regulations.

Prior to this presentation we will emphasize on the potential of Western-blot, PCR and immunofluorescence analysis in biomedical researches.

Keywords: Mitochondria; ATAD3; Western-blot; PCR; immunofluorescence.