

# Advancements in the Field of Cell Science

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## EDITORIAL NOTE

Journal of Cell Science & Therapy commemorates its decade long service to the scientific community by consistently publishing peer-reviewed articles and tracking the progress and significant advancements in the field of Cell Science. Ever since its inception in the year 2010, in addition to regular issue releases on a quarterly basis, this transdisciplinary journal is also releasing special issues and conference proceedings from time to time, thus comprehensively covering a wide range of topics and emerging challenges in Cell Science. The journal focuses on cell biology, cell therapy and hematology. In this issue some of the recent and impactful research articles that were published by the journal will be discussed.

The study is about a Heat Shock Protein 70 which is used in regenerating human chondrocytes. The HSP70 is upregulated by Nuclear Magnetic Coupled Fast Radio Burst or simply Fast Radio Bursts which triggers the cellular signaling required by the articular cartilage tissue. Pillai et al. [1] reported their research work wherein, Fast Radio Bursts are high energy, short electromagnetic bursts, in which both electric and magnetic components of the electromagnetic signals are “circularly” polarized. In this study the up-regulation of Hsp70 protein, to establish its role in an in vitro model was designed to expose 2-Dimensional and 3-Dimensional cultures to Fast Radio Bursts, and compared to a Sham Control, under identical conditions but without exposing Sham Control culture to fast radio bursts. It could be established in this study that 2D cultures grown in newly defined media and exposed to Fast Radio Burst signals, when compared to 2D cultures grown as Sham culture showed more chondrocyte specific markers and viable matrix properties. In 3D cultures grown similarly also showed better deep layer properties compared to the 3D cultures grown in sham culture. Thus, modulated Fast Radio Bursts exposure could play a significant role in specific protein up/down regulation in tissue regeneration.

In order to compare the effects of bone marrow-mononuclear cells (BM-MNCs) and folic acid (FA) in the treatment of peripheral neuropathy in streptozotocin-induced diabetic rats, Manal et

al. [2] had taken forty adult male albino rats and were divided into four groups i.e., group 1 (healthy), group 2 (diabetic single intraperitoneal streptozotocin injection), group 3 (diabetic rats that received BM-MNCs) and group 4 (diabetic rats that were treated with FA). Random blood sugar was measured for all. The animals were euthanized, and the right sciatic nerve was carefully extracted to measure sciatic nerve conduction velocity and processed for histopathological, immune-histochemical (CD68), electron microscopic and morphometric studies. Diabetic rats treated with BM-MNC showed better improvement in diabetic neuropathy than diabetic rats treated with folic acid.

With the aim to diagnose *Toxoplasma gondii* in pregnant sudanese women, Mohammed WM et al. [3] had collected three hundred pregnant females. All of them have undergone three different procedures for the diagnosis of *Toxoplasma gondii* infection. Toxolateral. Toxo IgG/IgM rapid test and ELISA were done for all pregnant female. The result described as frequency and percentage of positivity. The toxo IgG-IgM rapid test (cassette) considered as good test for diagnosis of toxoplasmosis and more specific than Toxolateral with also high diagnostic accuracy.

These research articles published by the journal have immense relevance and significance in to check the simply Fast Radio Bursts upregulation in HSP70 which is used to regenerate human chondrocytes, the improvement in diabetic rats and in diagnosing pregnant women with *Toxoplasma gondii*.

## REFERENCES

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