

Effect of Faradarmani Consciousness Field on proliferation, telomerase activity, and telomere length of the human mesenchymal stem cells

Mohammad Ali Taheri¹, Laleh Amani², Noushin Nabavi³, Ali Zaman Vaziri⁴, Ahmad Khalili^{4*}

1. Sciencefact R&D Department, CosmoIntel Inc. Research Center, Ontario, Canada

2. Department of Biology, Science and Research Branch, Islamic Azad University, Tehran

3. Research Services at the University of Victoria, Victoria, British Columbia, Canada

4. Cancer Biomedical Center (CBC) Research Institute, Tehran, Iran

* Corresponding author:

Ahmad Khalili, Cancer Biomedical Center (CBC) Research Institute, Tehran, Iran. Email:

Khalili.a.cbc@gmail.com

** Dr. Laleh Amani was an outstanding, compassionate, and enthusiastic researcher in the CosmoIntel Inc studies who passed away in 2021. We extend our sincere condolences and appreciation for her extraordinary efforts in this research and pray for her peace.

ABSTRACT

Taheri Consciousness (T-Consciousness) was introduced and defined by Mohammad Ali Taheri as one of the constituent components of the Cosmos in addition to matter and energy, from which Taheri Consciousness Fields (TCFs) are derived. TCFs are not matter or energy, but they can be proven by scientific experiments. The effect of Faradarmani CF, as one of TCFs, was examined in this study. Telomerase is an important enzyme, which adds DNA sequence repeats to the ends of chromosomes, thus prevents from their shortening. Telomerase activity is associated with cell proliferation, organism growth, and aging. This study aimed to study proliferation, telomerase activity, and telomere length in the Faradarmani CF treated mesenchymal stem cells (MSCs). Human MSCs were isolated from bone marrow and the morphology, proliferation of cells, length of telomere, and activity of telomerase were evaluated in Faradarmani CF treatment and control groups. The results showed that Faradarmani CF significantly increased the proliferation, length of telomere, and activity of telomerase in hMSCs compared with the control group ($p < 0.05$). Considering the effects of Faradarmani on telomere length and telomerase activity, which are two important factors for cures of several age-related diseases, it is recommended that more experiments be performed in this regard to clarify the effect of TCFs on aging.

Keywords: Taheri Consciousness Fields, Faradarmani Consciousness Field, telomerase activity, telomere length, mesenchymal stem cells

INTRODUCTION

The Discovery of the telomere's structure and accurately describing their functions was an important achievement in molecular medicine and especially in gerontology (Blackburn, 2001, Kim et al., 2002). To date, several experimentations and data from long-term medical investigations have confirmed the validity of the telomere theory of aging that associates life expectancy and the progress of age-related diseases with telomere length (Calado et al., 2012, Hoen et al., 2011, Martin-Ruiz et al., 2005, Zglinicki et al., 2005). A reverse association has been found between telomere length with various forms of cancer (Broberg et al., 2005, Bagheri et al., 2006), renal failure (Boxall et al., 2006, Ramírez et al., 2005), cardiovascular disease (Demissie et al., 2006, Zhan et al., 2019), Parkinson's disease (Maeda et al., 2012), and Alzheimer's disease (Cai et al., 2013). In most cases of these diseases, a direct relationship has been found between the shortening of telomere and a constant high level of oxidative stress (Wolkowitz et al., 2011, Spivak et al., 2016).

Stem cells (SCs) are undifferentiated cells that are capable of extensively proliferating (self-renewal) and differentiating into many cell lines in the body. The high differentiation potentials of human mesenchymal stem cells (hMSCs) suggest that any change in their proliferation and metabolism may have unexpected results (Brown et al., 2019). Therefore, it seems that hMSCs can be suitable models and reference cells for evaluating the results of Faradarmani CF in biological systems.

The nature of consciousness and its place

in science has received much attention in the current century. Many philosophical and scientific theories have been proposed in this area. In the 1980s, Mohammad Ali Taheri introduced novel fields with a non-material/non-energetic nature named Taheri-Consciousness Fields (TCFs). In this perspective, T-Consciousness is one of the three existing elements of the universe apart from matter and energy. According to this theory, there are various TCFs with different functions, which are the subcategories of a networked universal internet called the Cosmic Consciousness Network (CCN). The major difference between the theory of TCFs and other theoretical concepts about consciousness is related to the practical application of the TCFs. TCFs can be applied to all living and non-living creatures, including plants, animals, microorganisms, materials, etc.

Mohammad Ali Taheri, the founder of Erfan Keyhani Halqeh, a school of thought, introduced a new science in 2020 as a branch of this school. He coined the term Sciencefact for this new science because it utilizes scientific investigations to prove the existence of T-Consciousness as an irrefutable phenomenon and a fact. Although science focuses solely on the study of matter and energy and Sciencefact, by contrast, explores the effects of the [non-material/non-energetic] TCFs, Sciencefact has provided a common ground between the two by conducting reproducible laboratory experiments in various scientific fields, and it has used the scientific approach in proving TCFs.

The influence of the TCFs begins with the Connection between CCN as the Whole Taheri Consciousness of the universe and the subjects of study as a part. This Connection called



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“Ettesal” is established by a Faradarman-gar’s mind (a certified and trained individual who has been entrusted with the TCFs). The human mind has an intermediary role (Announcer) which plays a part by fleeting attention to the subject of study and then the main achievement obtained as a result of the effects of the TCFs. These fields cannot be directly measured by science, but it is possible to investigate their effects on various subjects through reproducible laboratory experiments (Taheri, 2013).

The research methodology in the study of T-Consciousness has been founded on the process of Assumption, Argument, and Proof, in which the basic Assumption is: The Cosmos was formed by a third element called T-Consciousness that is different from matter and energy.

The Argument: The existence of TCFs can be demonstrated by their effects on matter and energy (e.g., humans, animals, plants, microorganisms, cells, materials, etc.)

The Proof: is the scientific verification of the effects of TCFs on matter and energy (according to the Argument) through various reproducible scientific experiments.

Accordingly, to investigate and verify the existence, effects, and mechanisms of TCFs, the following five research phases (Phases 0 through 4), and the aims of each phase are outlined below.

Phase-0 studies aim to prove the existence of TCFs by observing their effects. The nature of T-Consciousness and what it is will not be addressed in this phase. Phase-1 explores the varied effects of different TCFs. Phase-2 examines the reason behind the varied effects of these fields. Phase-3 investigates the mecha-

nism of TCFs effects on matter and energy. Finally, Phase-4 draws significant conclusions, particularly with regard to the mind and memory of matter and their relation to the T-Consciousness, etc.

This study evaluated the effect of Faradarmani CF on the proliferation of stem cells along with their telomerase length and activity.

Methods and Materials

Application of the TCFs

TCFs were applied to the samples according to the protocols regulated by the COSMOintel research center (www.COSMOintel.com). A request for Connection to the CCN to utilize TCFs can be placed through the COSMOintel website in the “Assign Announcement” section. This access is available for everyone at no cost. In order to study and experience this Connection, the researchers can register on the website at any time and in order to report the experiment to the COSMOintel research center. Certain details of the experiment must be provided to the center; for example, the characteristics or number and name of samples and controls must be specified. This entire experiment was carried out as a double-blind method where lab technicians were completely unaware of TCFs theory, and the Faradarman-gar at the COSMOintel research center who established the Connection was unaware of the details of the study. Double-blind is a gold standard that is common in science experiments in the field of medicine and psychology, involving theoretical and practical testing.

Isolation and cultivation of mesenchymal stem cells

Human MSCs were isolated from a bone marrow sample of a volunteer female donor (25 years old) after obtaining informed consent. To put it briefly, the sample was washed with sterile phosphate buffer solution (PBS) to remove debris and red blood cells. The sample was treated with 0.075% type I collagenase in PBS for 30 min at 37°C under alternative shaking. Then, collagenase I was neutralized with an equal volume of Dulbecco's Modified Eagle's Medium (DMEM) and 10% fetal bovine serum and centrifuged at 800×rpm for 10 min. The cell pellet was dissolved and cultured on the DMEM high glucose medium, 10% FBS, and 1% penicillin/streptomycin. After 24h cultivation, non-adherent cells were discarded, and adherent cells were washed twice with PBS. After 80% confluency, the cells were passaged. After two passages, hMSCs were cultured on 6 well plates and kept in an incubator at 37°C and 5%CO₂.

Cell count and telomerase tests

The morphology and number of cells were evaluated 24 hours after cultivation. After 4 days, the cells were examined with a reverse microscope for any contamination and cellular density. When no contamination was observed and the cells reached the appropriate density, cells were passaged. After trypsinization, the number of cells was counted on the Neobar slide. One ml of suspension was used to evaluate the activity and length of telomerase.

DNA and RNA extraction

DNA and RNA extraction were performed using a Cinaclon kit (SinaClon, Tehran, Iran) according to the manufacturer's protocol. Briefly, after the fourth and fifth passages, hMSCs were incubated by lysis buffer (10 mM EDTA pH 8.0, 10 mM Tris pH 8.0, 100 mM NaCl, SDS 0.5% w/v, 100 mg/ml proteinase K) for 1.5 h at 37 ° C. After inactivation of proteinase K by incubation at 75 ° C for 15 min, it was treated with 5 µl Rnase A (10 mg/ml) then centrifuged and the supernatant was transferred to a new microtube. An equal volume of phenol: chloroform (1: 1) was added to the liquid and mixed thoroughly. Then, the supernatant was transferred to a new tube, and finally, the ethanol precipitation method was performed to isolate the genomic DNA.

RNA extraction was performed via Favor-Prep Blood/Cultured Cell Total RNA Mini Kit (Favorgen) according to the protocol of the manufacturer. The concentration of RNA was measured by means of a NanoDrop spectrophotometer (ThermoFisher) and stored at -70 °C.

Real-Time PCR

Real-time PCR was used to measure the telomere length and telomerase activity in MSCs. To measure cell telomere length, real-time PCR was performed according to the standard protocol. The master mix kit used was the Takara kit from (Japan). Real-time was performed with a probe against 6B4 (a single-stranded gene encoding the ribosomal acid phosphoprotein PO on chromosome 12) in 30 cycles with



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Applied Biosystem (USA) 7500. Tel-F sequence 5-GGTTTTTGAGGGTGAGGGTGAGGGTGAGG-GTGAGGGT-3 and Tel-R 5-TCCCGTATCCCTATCCCTATCCCTATCCCTATCCCTA-3 and 36B4-F sequence 5-CAGCAAGTGGGAAGGTGTAATCC-3 and 36B4-R sequence 5-CCCATTCTATCATCAACGGGTACAA-3 primers were used. The T / S (relative length of primer) ratio was obtained by division of the CT values (Thermal cycle) of telomere and 36B4 genes over each other. In addition, the TRAP protocol based on real-time PCR was used to measure the activity of the telomerase enzyme.

Statistical analysis

Data were analyzed by statistical analysis software (SPSS version 21). Data are presented as mean and standard deviation. A student t-test was used for comparing the differences between normally distributed variables. A P-value < 0.05 was considered statistically significant.

Results

Results of MSCs culture

An average of cell numbers of mesenchymal stem cells in 6 wells was counted in the control group after 24 h, while in the treatment group, this cell count was significantly increased by 20 percent more than the control group ($p < 0.05$) and the cells were wider in the control group. Moreover, in the treatment group, MSCs were detached in less time during trypsin-versene passage than in the control groups.

Results of telomere length and telomerase activity

As shown in Table 1, the effect of Faradarmani CF on the telomeres length of MSCs and the telomerase activity was statistically significant compared to the control group (Table 1). Faradarmani CF increased telomeres length and the telomerase activity of MSCs significantly ($P < 0.05$).

Table 1 . Telomere length and telomerase activity in the control and treatment groups under the influence of Faradarmani CF

Variables	Treatment group	Control group	p-value
Length of telomere	1.84 ± 0.03	1.64 ± 0.07	<0.05
Telomerase activity ^a	0.10 ± 0.005	0.09 ± 0.002	<0.05

Data are presented as mean ± standard deviation.

^aTelomere activity was assessed based on Ct-values.

Discussion and conclusion

The aging and age-related diseases are extensively associated not only with medication but also with psychological interventions (Epel, 2012), including proper diet, self-control

(Farzaneh-Far et al., 2010), and mental and physical training to increase the telomerase activity in non-tumor cells and thus counteract age-related telomere shortening and decreased telomerase activity. These are the

critical health principles that form a good way to have a long and healthy life (Spivak et al., 2016).

The present study showed that Faradarmani significantly increased proliferation, telomeres length, and the telomerase activity of hMSCs ($P < 0.05$). Telomere length and telomerase are two important markers that are rapidly gaining importance as targets for cures of several age-related diseases, which Faradarmani CF has an effect on it, as demonstrated in this study.

As was mentioned in the introduction section, TCFs as non-material and non-energetic fields can be applied to all living and non-living beings, including plants, animals, microorganisms, etc. Although we cannot measure TCFs quantitatively, it is possible to investigate their effects indirectly through various experiments.

In previous studies we observed the effects of TCFs on MCF7 cancer cell line (Taheri et al., 2020a), Alzheimer's disease rat models (Taheri et al., 2021b), spatial memory and avoidance behavior of a rat model of Alzheimer's disease (Taheri et al.,

2021c), wheat plant under salinity stress (Torabi et al., 2020), bacterial population growth (Taheri et al., 2021d), viral growth (Taheri et al., 2021a), and the electrical activity of the brain during Faradarmani in the Faradarmangars population (Taheri et al., 2020b). The present research was the first study on the effect of Faradarmani on telomerase activity and telomere length in vitro so additional research on the other cells, animals, also aging, and the development of age-related diseases is required to better investigate the issue.

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Conflicts of Interest

The authors declare no conflict of interest.



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