

# Analysis of Cell Cycle in Embryonic Fibroblasts and SW480 (Colon Cancer) under the Influence of Taheri Consciousness Fields

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## Abstract

According to Taheri, applying the Faradarmani Consciousness Field (FCF) can lead to the repair and improvement of any system that is placed under the influence of this T-Consciousness Field. Previously, a growth-inducing effect of the FCF on the MCF7 and 4T1 cancer cell lines was observed under *in vitro* and *ex vivo* environments respectively. The same cannot be said for *in vivo* experiment as FCF inhibited the growth of tumor in the body of the cancer mouse models. Overall, the results of previous studies confirmed that cancer cell survival and growth is affected by FCF. The present study aimed to evaluate the reproducibility of the observations in previous studies using *in vitro* cell cultures of fibroblast cell line under *Faradarmani Consciousness Field (FCF)* and SW480 cell line under two types of Taheri Consciousness Fields (TCFs). Cell cycle analysis showed that FCF led to a decrease in apoptosis and increase in proliferation of fibroblast cell line. This observation was in accordance with previous studies. Furthermore, according to the MTT assay results, both TCFs 1 and 2 increased survival in the SW480. Cell cycle analysis showed that TCF2 reduced cell survival and the proliferation rate of this cell line. In conclusion, TCFs affected death and survival of these cell lines. Further *in vitro* and *in vivo* studies are necessary to fully understand the precise mechanism of these non-material/non-energetic fields.

**Keywords:** Faradarmani Consciousness Field; Taheri Consciousness Fields; Fibroblast; Cell cycle; Colon cancer, SW480

## Introduction

Embryonic fibroblasts are used for investigating the effects of growth induction factors because of their easy access, handling, and rapid growth rates. Fibroblasts are a group of heterogeneous resident cells of mesenchymal origin that have different locations, diverse appearances, and distinct activities (Qiu et al., 2016). In previous research, according to “Sciencefact” using Taheri Consciousness Fields (TCFs), *in vivo* (Taheri et al., 2022a), *ex vivo* (three-dimensional) (Taheri et al., 2022b) and *in vitro* (two-dimensional) (Taheri et al., 2022c) experiments were conducted. To evaluate the reproducibility of the previously reported results of the influence of TCFs on the cancer cell lines *in vitro*, we studied the influence of FCF on embryonic fibroblast cells with optimal proliferative capacity using flow cytometry.

Moreover, colorectal cancer is the third most common cancer in the Western hemisphere and its incidence increases with age. Most colorectal cancers with or without lymph node metastasis are local and up to 20% of patients with metastatic disease are more likely to have liver disease (Haraldsdottir et al., 2014). The SW480 cell line was derived from the colon tumor of a 50-year-old Caucasian male patient with colorectal adenocarcinoma. They have an epithelial morphology and high levels of p53, c-myc, K-ras, H-ras, N-ras, sis, myb and fos oncogenes. These cell lines are widely used in biomedical research to aid research and finding a cure for colon cancer (Xiong et al., 2014). In the current study, in addition to fibroblast cell

line, the behavior of SW480 under two types of Taheri Consciousness Fields (TCFs) has been investigated.

## Material and Methods

### TCF1 application

In this study, Faradarmani or TCF1 was allocated once every 24 hours for the sample cell culture plates, during the whole study period. Negative control is the fibroblast cells which are untreated with FCF.

### Application of TCFs on SW480 cell line

In this study, the samples treated with TCFs in 12, 24 and 48 hours and this treatment was allocated once every 24 hours for the sample cell culture plates, during the whole study time.

### Cell culture, MTT assay, flow cytometry and cell cycle analysis

It has been done according to mentioned in the general consideration.

## Results and Discussion

According to Figure 1, there is a decrease in population of sub G1 stage and an increase in G1 phase in the presence of FCF. No significant changes were seen in the S and G2 phases. In other words, FCF led to a reduction in apoptosis rates and an increase in cell growth in this cell line.

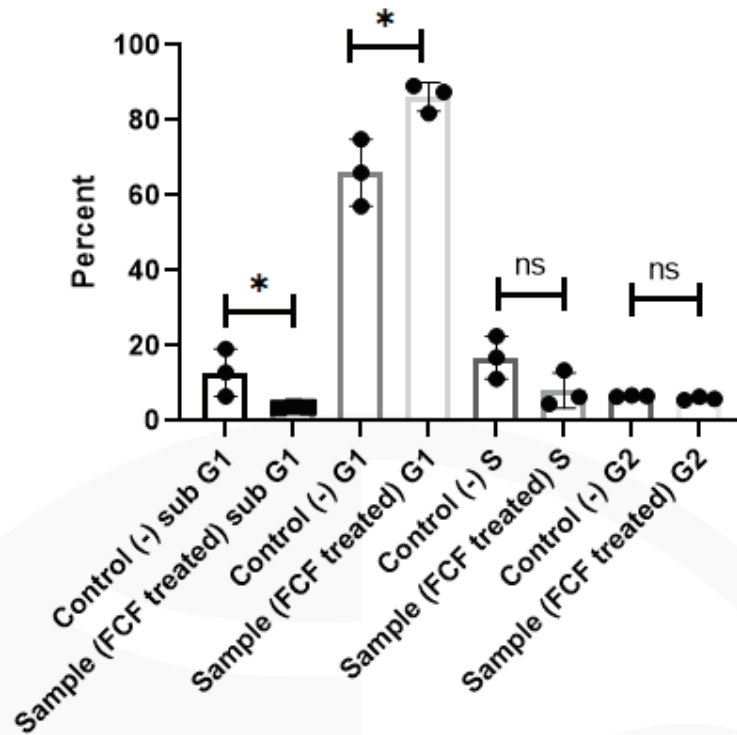


Figure 1. Fibroblast cell cycle analysis under the influence of FCF. \*: p-value<0.05, ns: non-significant.

In addition, the MTT assay is used with the aim of measuring cell metabolic activity. The analysis of the SW480 cell line at 12, 24 and 48 hours under influence of TCFs compared to the control is presented at Figure 2.

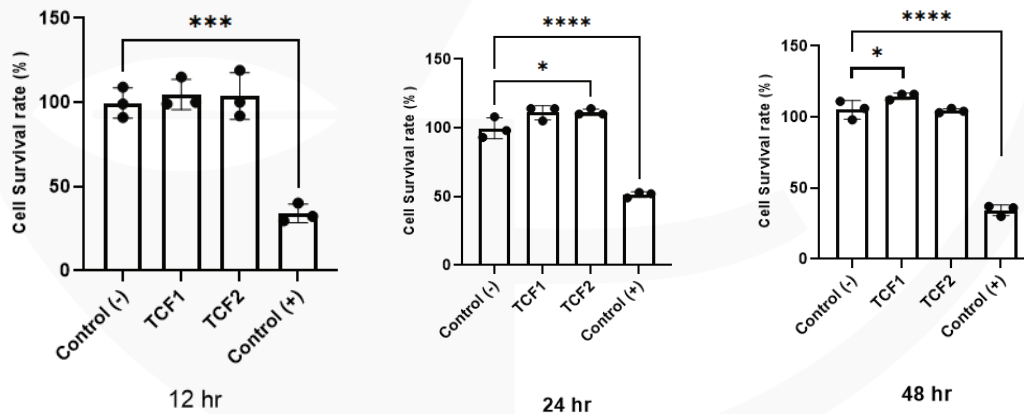


Figure 2. Comparison of the MTT analysis of the SW480 cell line at 12, 24 and 48 hour intervals. (TCF: Taheri Consciousness Field). \*: p-value<0.05 \*\*\*: p-value<0.001, \*\*\*\*: p-value<0.0001.

As can be seen, SW480 cell line at 24 hours and 48 hours showed increase in survival under the influence of TCF1 and TCF2, respectively. Although the obtained data from MTT assay usually are attributed to the number of viable cells, the rate of tetrazolium reduction represents the metabolic activity of cells such as the rate of

glycolytic NADH production (Berridge et al., 2005). So based on the aforementioned results it can be said that there was an increased metabolic activity in SW480 under TCF1 from 12 to 48 hour, and as a result of TCF2 treatment the same behavior observed in the first 12 and 24 hours. It is to be noted this influence of TCF2 followed

by apoptosis and decreased mitosis at 48 hours. Cell cycle analysis was done at 48 hours. As can be seen in the Table 1, the G2/M phase in

the SW480 cell line decreased significantly as a result of TCF2 treatment.

Table 1. Cell cycle analysis of SW480 cancer cell line

TCF	Cell cycle percentage		
	G1	S	G2/M
Control (-)	74.3	17.8	7.58
TCF1	72.3	18.8	8.17
TCF2	89.5	8.58	1.25*

\*: p-value<0.05

As it has been explained in the introduction section, the aim of designing experiments in the zero-phase of TCFs research is mainly to report the effects of these novel fields apart from their mechanism at the cellular level. Based on the result, Faradarmani had similar effect on the cell cycle progression of fibroblast cell line and SW40 cell line had different behavior under TCFs compared to the control. These observations

warrant more studies, so further investigations about the effect of TCFs on cellular responses will be conducted to test reproducibility.

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