

عنوان مقاله:

Extremely Low Frequency Electromagnetic Fields Alter Expression of C-Myc and circ-CCDC66 in Gastric Cancer Cell Line

محل انتشار:

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خلاصه مقاله:

The biological effects of electromagnetic fields (EMF), in particular their beneficial or adverse impacts on the promotion and progression of cancer, have attracted considerable attention. C-Myc has a critical regulatory role in cell transformation and causes metabolic changes, that accompany malignant transformation. Observations have shown that c-Myc expression can be altered by circular RNAs (circRNA). In this study, the changes in the expression of c-Myc and circ-CCDC66 in the AGS cell line after the extremely low-frequency magnetic fields (ELF-MF) exposure were investigated. The AGS cells were exposed to different magnetic flux densities for 18 h, continuously and discontinuously (2h on/2h off). To evaluate the expression changes of c-Myc and circ-CCDC66 real-time PCR was used. The results showed that discontinuous magnetic fields could reduce c-Myc expression. Continuous exposure of 0.25 mT could reduce the c-Myc expression, but with increasing the magnetic flux density c-Myc was upregulated. The expression level of circ-CCDC66 decreased under exposure to continuous and discontinuous ELF-MFs. The difference between the results of c-Myc under the influence of magnetic fields may be described by the hypothesis of the window effect of the fields. Our results indicated that ELF-MFs can induce changes in c-Myc and circ-CCDC66 expression.

کلمات کلیدی:

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