خلاصه مقالات

دومین همایش بین المللی ژنتیک طبی

۹ لغایت ۱۱ آذرماه ۱۳۸۵

TUMS

EMRC

ICA

ROS

O24

The role of CpG in intestinal cancer cell model

M.R. Khorramizadeh., Sh.Hosseinzadeh, M. Pezeshki., F. Saadat., Z .Jadali., A. F Sarrafnejad., F. Safavifar., R. Falak., A. Berahme., A. Mirshafiey.,

M.R. Khorramizadeh, Medical Biotechnology PhD.,Assistant Professor,
Department of Pathobiology, School of Public Health, Tehran Univeristy of Medical Sciences,Tehran, Ir.

Background: Recent reports have shown different effects of immunostimulatory sequences containing CpG motifs on various immune cells. However, the exact role of CpG oligodesoxynucleotide(ODN) in the human gut is unclear.

Aim: In the present study, we assessed potential effects of CpG ODN on non immune cell (epithelial cell line HT-29) on a dose-response and time –course basis.

Methods: epithelial cell line HT-29 was treated with CpG ODN (CpG 2006) and lipopolysaccharide (LPS) at (5, 10, 25, 50 μg/ ml) and (1, 5, 10 μg/ ml) concentrations, respectively. Following treatments, dose- response and time-course cytotoxicity (using a colorimetric method), MMP-2 activity (using gelatin zymography) and apoptosis (using annexin-v flowcytometry method) assays were performed. To verify specific CpG effects, chloroquine treatment was used for its inhibitory effect on endosomal acidification process.

Results: cytotoxicity analysis of CpG ODN showed that CpG ODN increases proliferation of cells at concentration 10-25 μg/ml. Significant differences were observed between treated and untreated groups ($p< 0.05$). MMP-2 activity analysis showed no significant differences between different groups of treated and untreated cells. Moreover, rate of apoptosis for CpG ODN treated cells at 5, 10, 25 μg/ml concentrations was 0.8 %, 6.46 % and 14.21 %, respectively, showing an increased apoptosis to necrosis ratio.

Conclusion: intestinal epithelial cell line HT-29 is potentially highly responsive to CpG therapy in vitro and exhibits deviated cancer cell characteristic phenotypes.