Insight Medical Publishing

Journal of Pharmacological reviews and reports 2020

Vol.0 No.0

# A study of the toxicological effect of Methyl paraben on human cancer breast cell line

[1]Prof. Dr. Wafaa Mohamed Elsehly, [1]Prof. Dr. Ghada Mohammed Mourad Fouad, [1]Dr. Radwa Ali Mehanna, [1]Dr. Mennatt Allah Hassan Attia Hussein Marwa Abd Elfattah Elsayed Kholief

[1]University of Alexandria, Egypt

## *Abstract*

Parabens are common ingredients in thousands of cosmetic and personal care products. Consumers of these compounds are frequently exposed via the skin, lips, eyes, oral mucosa, nails, and hair. Recently, parabens have been shown to act as xenoestrogens, a class of endocrine disruptors. They have been assessed for their metabolic activity as estrogen agonist that play a role in breast cancer development. The human breast adenocarcinoma cell line MCF-7 (Michigan Cancer Foundation-7) has served for over 40 years as a standard model for in vitro cancer research as well as estrogen and progesterone receptor science and is one of the key cancer cell lines used as a model for investigation of processes that impact patient care and provide a validated model system for assessing the ability of parabens to drive the growth of human breast cancer cells. However it is now recognized that MCF-7 is heterogeneous with respect to both the expression of hormone receptors and to the utilization of the signaling pathways linked to these receptors, differences that result in phenotypic heterogeneity. On the basis of a literature review, the National Institute for Health and Environment has investigated whether the three most commonly-used parabens (methyl-, ethyl- and propylparaben) can be considered as endocrine-disrupting substances. However, the available data from animal studies described in the literature do not provide sufficient information to be able to reach this conclusion.The present study aimed to study in vitro toxicological effects of methyl paraben on the behavior of MCF-7-McGrath human breast cancer cell lines.

**Materials and Methods:** MCF7 cells were obtained from ATCC and mantained as monolayer cell culture in RPMI phenol red free with 5% dextran charcoal stripped fetal bovine serum and incubated with estradiol ($1*10^{-8}$ M) and different doses of methyl parabens ($4*10^{-5}$ M, $6*10^{-5}$ M, $1*10^{-4}$M, $2*10^{-4}$ M) for 7 days in 96 well plate for MTT assay. Inaddition to seeding in 6 well plate and incubated with parabens for 7 days to assess the gene expression of proliferation and apoptosis genes by real time PCR.

**Results:** No significant difference between the incremental doses of methyl parabens on MCF7 by MTT assay as a proliferative method. As regard the real time PCR of genes expression on going progress.

**Conclusions:** characterization and confirmation of the senstivity of MCF7 cell line in respect to the passage number, genetic diveristy of the cells, estrogen response growth curve and cross contamination..MTT assay isn't necessarily a measuring proliferation assay

## *Biography:*

Wafaa Mohamed El Sehly has completed her PhD at the age of 34 years from Alexandria University. She is a professor of Forensic Medicine and Clinical toxicology in Faculty of Medicine and Armed Faculty of Medicine Ministry of defense EGYPT. Also, she is the director of Quality Assurance Unit in Faculty of Medicine. She has published more than 35 papers in reputed journals and attended more than 50 national and 10 international conferences. She has included in the 2009 Edition of Who's Who in the World. She supervised many thesis, active member in different scientific associations and external reviewer in many scientific journals. She is the Advisory Representative of the Faculty of Medicine in front of the court in many criminal cases. She had Master quality mangement (MQM) at academy for science and technology and maritime transport.

22nd World Congress on Toxicology and Pharmacology, Webinar, July 14-15, 2020.

**Abstract Citation:**

Wafaa Mohamed El Sehly, A study of the toxicological effect of Methyl paraben on human cancer breast cell line, Toxicology Congress 2020, 22nd World Congress on Toxicology and Pharmacology; Webinar, June 14-15, 2020 (https://toxicology-pharmacology.conferenceseries.com/abstract/2020/a-study-of-the-toxicological-effect-of-methyl-paraben-on-human-cancer-breast-cell-line)