

3rd International Conference on Genomics & Pharmacogenomics

September 21-23, 2015 San Antonio, USA



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Understanding the effects of steroid hormone exposure on regulation of P53 and Bcl-2 gene expression

Steroid hormones have been widely overlooked as controllers of gene expression. Through the various mechanisms of gene expression (DNA methylation, histone methylation, and RNAi), we discuss the mechanism of action for the normal reproductive templates considering the fluctuation and amplitude of potential gene-regulating treatment protocols. By examining the interactions of estradiol (E2) and progesterone (P4) in women, we propose that changes in physiologic reproductive hormone templates of exposure and timing can affect fertility and even cancer through the silencing or amplification of gene products; such as P53 and Bcl-2 in women. We put forth a hypothesis that uncontrolled hormone levels, due to aging and/or the environment, may be restored to a normal youthful template of gene expression through the fluctuating exogenous application of E2 and P4 that mimic the normal hormonal structure of reproductive health. We postulate that this may lead to a lower risk of the chronic illnesses of aging and a better quality of life in patients suffering those conditions.

Biography

Teresa S Wiley has a BA from Webster University and is the CEO and Director of Wiley Compounding Systems, where she performs research in the area of theoretical medical understanding of the mechanisms of action for biological systems including gene regulation, hormonal mechanisms, and pharmaceutical dependence. She has published six papers and two books on the effects of hormone deregulation and its effects on genomics and other medical conditions.

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