

Poster #36

The in vitro Estrogen and Androgen Activity of the Lydia Pinkham Herbal Supplement

Michelle Lang¹, Thomas E. Wiese^{2,3}, Ashley White¹, Huiming Li², Stephen M. Boué⁴

¹Chemistry Department and ²College of Pharmacy, Xavier University of Louisiana, ³Center for Bioenvironmental Research at Tulane and Xavier Universities, ⁴Southern Regional Research Center, USDA, New Orleans, LA

The Lydia Pinkham herbal supplement is a popular dietary supplement used by women in the US to reduce post-menopausal symptoms. Introduced in 1875, this product contains extracts from 7 natural herbs as well as other vitamins and minerals. The purpose of this project is to use cell culture based estrogen and androgen assays to characterize the intrinsic hormone activity of this product. Under the Dietary Supplement Health and Education Act of 1994, the activity of dietary supplements is not regulated or standardized in the US. Extracts containing varying concentrations of the Lydia Pinkham supplement were made in 80% methanol, dried, and then brought up in DMSO. Each extract was then used to treat the MVLN cell estrogen dependant reporter gene assay as well as the MCF-7 breast cancer cell proliferation assay and the MDA-kb2 androgen dependant reporter gene assay. Our data indicates that the Lydia Pinkham supplement induces no estrogen or androgen agonist or antagonist activity in these cell based assays. Thus, the Lydia Pinkham supplement may have no inherent estrogen or androgen activity. Alternatively, it is possible that the Lydia Pinkham formula contains phytochemicals which may alleviate postmenopausal symptoms by another mechanisms. In addition, this supplement may not induce unwanted hormone activity such as androgenic effects or the stimulation of breast cancer cells.

mjlang@xula.edu