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Q Eqchi Mayan Piper and Cissampelos Species Alter Reporter Genes and Endogenous Genes Expression in Mc-7 Cells

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Abstract : Introduction: The genus piperaceae contains approximately 1000 species of herbs scrubs small trees and hanging vines distributed in both hemispheres. During our ethno medical work in Guatemala of the 27 plant families documented for us e by the Qeqchi Maya for reproductive disorders the most prominent were the Piperaceae (15%) and Menispermiaceae. Our Previous work showed that extracts from form Piper and Cissampelos species bound to both and progesterone and the estrogen receptors. In this work active extracts from Piper aeruginosibaccum Trelease, P auritum, P tuerckheimii and Cissampels tropaeolifolia were tested in functionalized cell based assays including a SEAP reporter gene and by qPCR of ER-responsive gene expression in MCF-7cells. In the reporter gene assay P aeruginosibaccum was estrogenic and enhanced E2 EFFECTS IN MCF-7 CELLS. P. tuerckheimi was not estrogenic alone but significantly enhanced the effects of E2 on SEAP reporter gene expression. Both altered mRNA expression of E2 responsive genes in MCF-7. Methods: this is collaborative project between University of Illinois at Chicago and University of San Carlos Guatemala City. 144 spices of plants were collected in Guatemala of which 57 used to treat a variety of women's reproductive health. The Genus Piperaraceae contains approximately 1000 species of herbs scrubs and small trees. Active extracts of the plants were tested in functionalized in cell-based bioassays including SEAP reporter genes. Results demonstrated altered mRNA expression of E2 responsive genes in MC-7 cells plants were collected in Guatemala of which 57 used. Conclusion of the 5 plants tested all were shown to contain components of binding to estrogenic receptor to a greater or lesser degree. These effects support the use of QEqchi Maya women in Guatemala for reproductive.

Keywords : reporter genes, MC7, guatemala piperaceae, reproductive health
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