

Biological activity of genistein and soy extracts: Selective induction of some but not all estrogenic responses in the prepubertal rat uterus

Actividad biológica de Genisteína y extractos de soya: Inducción selectiva de algunas pero no todas las respuesta

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The existence of multiple kinds of estrogen receptors (ERs), involved in independent groups of responses, allows their dissociation and opens the possibility to selectively induce beneficial responses but not those considered at risk (cell proliferation). Based on the low hormone-dependent cancer mortality in Eastern Asia, attributed to high dietary intake of estrogenic isoflavones, we investigated whether genistein (G) or soybean extracts (S) selectively induce some, but not all estrogenic responses in the rat uterus, comparing its activity to that of estradiol-17 β (E2).

Prepubertal rats were treated with E2, G, concentrated S (Sc), diluted S (Sd), or vehicle, and uterine responses to estrogen were evaluated. Luminal epithelial and myometrial cell hypertrophy, and luminal epithelial RNA increase, were induced by E2, G or S. Uterine eosinophilia, endometrial edema and proliferation of 4 uterine cell-types were induced by E2 only. Results reveal that G and S induce some responses to est