Il trifoglio rosso o pratense è comunemente conosciuto con il nome inglese “red clover” e d ha oggi fama di essere un potente fitormone. Il trifoglio rosso è una fonte concentrata di composti fitoestrogenici. Il fitocomplessa della pianta è infatti caratterizzato principalmente da sostanze di natura isoflavonica, ritenute responsabili del profilo farmacologico della pianta. Sono presenti quantità significative di biociania e genisteina. Nel fitocomplesso sono state riscontrate anche quantità significative di vitamina E. Gli studi farmacologici e clinici indicano il Trifoglio rosso come pianta sicura; non si riportano tossicità ed effetti collaterali significativi, anche per trattamenti a lungo termine.

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In mice fed a diet supplemented with red clover isoflavones the prostatic epithelium displays a significant increase in the production of estrogen receptor beta and the adhesion protein E-cadherin but a decrease in transforming growth factor beta1. These proteins are estrogenically-induced markers of proliferation, maintenance of histological architecture, preservation of cell phenotype and reduction of the potential for neoplastic and metastatic transformation. This study suggests that red clover isoflavones represent a non-toxic dietary treatment for prostatic hyperplasia and a reduction in the potential for neoplastic transformation. Prostate. 2003 Jun 15;56(1):54-64.


BACKGROUND: Red clover (RC)-derived dietary isoflavones have been implicated as potential preventative agents for the development and prevalence of non-malignant prostate diseases. This study investigated whether dietary isoflavones inhibit prostate growth in vivo in the aromatase knock-out (ArKO) mouse that exhibits lifelong elevation of androgens leading to prostate enlargement. METHODS: Adult (11-week-old) wild-type (WT) and ArKO mice were fed
on protein matched isoflavones free (IF) and RC (isoflavone rich) diets for 28 days. Individual prostate lobes and testes were weighed and collected for histological analysis and serum androgens were measured. Responses were compared to castration and estrogen administration to ArKO mice to determine the mechanism of action. RESULTS: ArKO mice fed on IF diet exhibited enlarged prostate lobes and elevated serum androgens compared to WT mice. Following 28 days of RC diet, ArKO VP, AP, and SV weights were reduced to WT weights, although testis and body weights remained unaltered. Stereological analysis of VPs revealed a reduction in all components of the tissue, particularly the lumen. The RC diet reduced ArKO serum testosterone and dihydrotestosterone to WT levels. In comparison to castration and estrogen administration, the dietary isoflavones were shown to be anti-androgenic rather than weakly estrogenic, mimicking responses observed in the castrated ArKO, rather than estrogen treated ArKOs. CONCLUSIONS: This study demonstrates that RC-derived isoflavones have a significant effect on prostatic growth, and are capable of reducing the enlarged non-malignant prostate phenotype of the adult ArKO mouse, by acting as anti-androgenic agents rather than weak estrogenic substances. Copyright 2003 Wiley-Liss, Inc.

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