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Subject: Green Tea

Posted by [Unkreativer](#) on Wed, 04 Oct 2006 16:23:25 GMT

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Ich weiss nicht, ob es schonmal hier besprochen wurde. Die Suche sagt eher nein.

Structure-activity relationships for inhibition of human 5alpha-reductases by polyphenols.

The enzyme steroid 5 alpha-reductase (EC 1.3.99.5) catalyzes the NADPH-dependent reduction of the double bond of a variety of 3-oxo-Delta(4) steroids including the conversion of testosterone to 5 alpha-dihydrotestosterone. In humans, 5 alpha-reductase activity is critical for certain aspects of male sexual differentiation, and may be involved in the development of benign prostatic hyperplasia, alopecia, hirsutism, and prostate cancer. Certain natural products contain components that are inhibitors of 5 alpha-reductase, such as the green tea catechin (-)-epigallocatechin gallate (EGCG). EGCG shows potent inhibition in cell-free but not in whole-cell assays of 5 alpha-reductase. Replacement of the gallate ester in EGCG with long-chain fatty acids produced potent 5 alpha-reductase inhibitors that were active in both cell-free and whole-cell assay systems. Other flavonoids that were potent inhibitors of the type 1 5alpha-reductase include myricetin, quercetin, baicalein, and fisetin. Biochanin A, daidzein, genistein, and kaempferol were much better inhibitors of the type 2 than the type 1 isozyme. Several other natural and synthetic polyphenolic compounds were more effective inhibitors of the type 1 than the type 2 isozyme, including alizarin, anthrabin, gossypol, nordihydroguaiaretic acid, caffeic acid phenethyl ester, and octyl and dodecyl gallates. The presence of a catechol group was characteristic of almost all inhibitors that showed selectivity for the type 1 isozyme of 5 alpha-reductase. Since some of these compounds are consumed as part of the normal diet or in supplements, they have the potential to inhibit 5 alpha-reductase activity, which may be useful for the prevention or treatment of androgen-dependent disorders. However, these compounds also may adversely affect male sexual differentiation.

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