

J Agric Food Chem.
2006 Apr 19;54(8):2938-43.

**Effect of hop (*Humulus lupulus* L.) flavonoids
on aromatase (estrogen synthase) activity.¹**

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The aim of this work was to study the effect of the prenylflavonoids xanthohumol, isoxanthohumol, and 8-prenylnaringenin on the activity and expression of the enzyme aromatase (estrogen synthase). The effect of different kinds of beer containing these prenylflavonoids was also tested. Aromatase activity was determined by measuring the release of tritiated water during the conversion of [(3)H]androstenedione to estrone. Aromatase expression was determined by RT-PCR. This assay was carried out in choriocarcinoma-derived JAR cells. The tested prenylflavonoids were able to inhibit estrogen formation, and their IC(50) values were determined, although no effect on aromatase expression was found. Lager beer, alcohol-free beer, stout beer, and xanthohumol-rich stout beer (200 microL/mL) significantly decreased aromatase activity. In conclusion, prenylflavonoids are able to modulate aromatase activity, decreasing estrogen synthesis, with relevance for the prevention and treatment of estrogen-dependent disorders such as breast cancer.

¹ Questo documento è segnalato sul sito www.birrainforma.it