

Xanthohumol



Xanthohumol is a flavonoid from hop plant (*Humulus lupulus* L.), also found in beer, which has shown a great number of health benefits. It is suggested that it has antioxidant, anticancer, anti-inflammatory, hypoglycemic and antilipogenic activity, among others. In addition, it produces an increase in HDL cholesterol, thus reducing the risk of atherosclerosis (1).

Obesity and appetite

Leptin is a hormone produced mainly in white adipose tissue and is linked to obesity and metabolic syndrome. It is a key regulator of body weight and food intake or energy balance by suppressing appetite.

Supplementation with xanthohumol has shown a significant decrease in plasma levels of leptin (2), which is why it is postulated as an optimal compound to fight obesity or reduce body weight.

It lowers LDL cholesterol levels

Xanthohumol helps fight high LDL levels by lowering plasma levels of the PCSK9 protein, a negative regulator of plasma LDL that works by promoting proteolytic degradation of the LDL receptor. In recent years, PCSK9 has received much attention as a drug target for treating hypercholesterolemia.

In a study carried out in 2016, this activity of xanthohumol was demonstrated in mice (Figure 1). In this study, a group of mice was treated with two different doses of xanthohumol: 30 mg / kg per day, and 60 mg / kg (2).

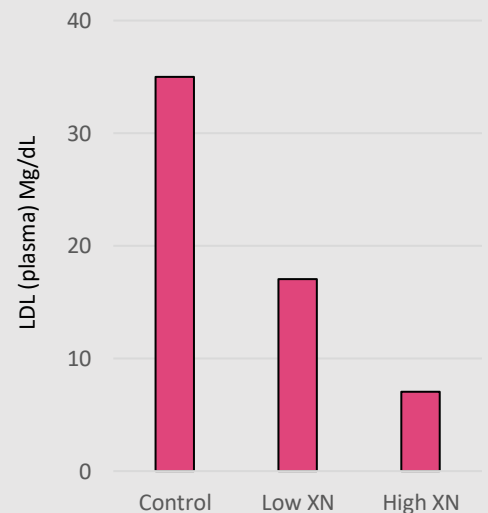


Figure 1. LDL levels in plasma of untreated mice (control), treated with 30 mg / kg of Xanthohumol per day, and 60, respectively.

It reduces insulin levels and inflammation markers

In the same study mentioned above, xanthohumol supplementation was shown to cause a significant 42% reduction in plasma insulin levels in mice on a high-fat diet, suggesting that XN may be beneficial in preventing resistance to insulin in obese subjects with type 2 diabetes. Its anti-inflammatory effect has also been shown, as it reduces the levels of inflammation markers such as IL-6.

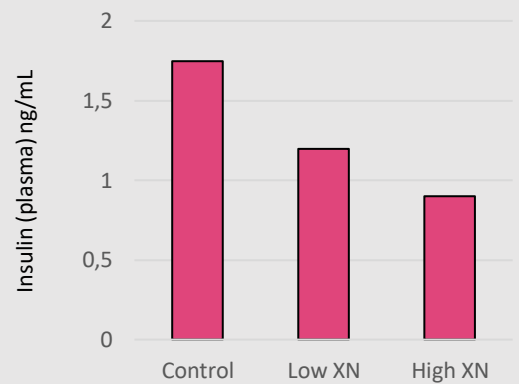


Figure 2. Insulin levels in plasma of untreated mice (control), treated with 30 mg / kg of Xanthohumol per day, and 60, respectively

Other health benefits

In addition, recent attention has been paid to the benefits of hop extracts in women due to their estrogenic effect as well as chemopreventive properties. Hop extracts have thus been used as dietary supplements and even proposed to treat some of the symptoms associated with menopause (3).

Recommended doses

Humulus Lupulus dry extract: 300 mg/cap. 1-3 times/day.

References

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- 2.- Miranda, C. L., Elías, V. D., Hay, J. J., Choi, J., Reed, R. L., & Stevens, J. F. (2016). Xanthohumol improves dysfunctional glucose and lipid metabolism in diet-induced obese C57BL/6J mice. *Archives of biochemistry and biophysics*, 599, 22-30.
- 3.- Rossi, R. E., Whyand, T., & Caplin, M. E. (2019). Benefits of Xanthohumol in Hyperlipidaemia, Obesity and Type 2 Diabetes Mellitus: A Review. *Journal of Obesity and Chronic Diseases*, 3(1), 14-8.

Farma- Química Sur SL

C/ Carlo Goldoni, 32 Polígono Industrial Guadalhorce –
 Málaga 29004 España · Teléfono: 952 240 988 · Fax:
 952 242 585 · e-Mail:
farmaquimicasur@farmaquimicasur.com