

# Olive oil protects liver

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Extra-virgin olive oil can protect the liver from oxidative stress. Researchers writing in BioMed Central's open access journal *Nutrition and Metabolism* exposed rats to a moderately toxic herbicide known to deplete antioxidants and cause oxidative stress, finding that those rats fed on a diet containing the olive oil were partially protected from the resulting liver damage.

Mohamed Hammami from the University of Monastir, Tunisia and King Saud University, Riyadh, Saudi Arabia, worked with a team of researchers to carry out the experiments in a group of 80 rats. He said, "Olive oil is an integral ingredient in the [Mediterranean diet](#). There is growing evidence that it may have great health benefits including the reduction in [coronary heart disease](#) risk, the prevention of some cancers and the modification of immune and inflammatory responses. Here, we've shown that extra [virgin olive oil](#) and its extracts protect against oxidative damage of hepatic tissue".

The researchers separated the rats into a control group, an olive oil group, and 6 groups that were exposed to the herbicide '2,4-Dichlorophenoxyacetic acid' with or without either whole olive oil, or one of two oil extracts – the hydrophilic fraction or the lipophilic fraction. All rats given the herbicide showed signs of significant [liver damage](#). However, extra virgin olive oil and hydrophilic fraction intake induced a significant increase in antioxidant enzyme activity and a decrease in markers of liver damage.

Speaking about the results, Hammami said, "The hydrophilic fraction of

olive oil seems to be the effective one in reducing toxin-induced oxidative stress, indicating that hydrophilic extract may exert a direct antioxidant effect on hepatic cells. However, more detailed studies about the effect of antioxidant compounds separately and/or their interactions are necessary to substantiate these observations".

**More information:** Effects of olive oil and its fractions on oxidative stress and the liver's fatty acid composition in 2,4-Dichlorophenoxyacetic acid- treated rats, Amel Nakbi, Wafa Tayeb, Abir Grissa, Manel Issaoui, Samia Dabbou, Issam Chargui, Meriem Ellouz, Abdelhedi Miled and Mohamed Hammami, Nutrition & Metabolism (in press), [www.nutritionandmetabolism.com/](http://www.nutritionandmetabolism.com/)

Provided by BioMed Central

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