

## Bergamot juice extract protects human lung epithelial cells from oxidative stress

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It has been reported that oxidant/antioxidant imbalance triggers cell damage, that in turn causes a number of lung diseases. Flavonoids are known for their health benefits, and *Citrus* fruits juices are one of the main food sources of these secondary plant metabolites. *Citrus bergamina* Risso et Poiteau, also known as 'bergamot,' is an endemic plant of the Calabria region that in recent years have gained ground because the health properties of its derivatives.

The present study was designed to evaluate the effect of a natural bergamot juice extracts (BJe) rich of flavonoids against H<sub>2</sub>O<sub>2</sub>- or Fe<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub>-induced oxidative stress in human lung epithelial A549 cells.

First we tested the antioxidant properties of BJe in cell-free experimental models, and then we assayed its ability to prevent the cytotoxic effects induced by stressors. Our results demonstrated that BJe reduces the cell death, the generation of reactive oxygen species and the membrane lipid peroxidation, improve the mitochondrial functionality and prevent the DNA-oxidative damage in A549 cells exposed to H<sub>2</sub>O<sub>2</sub> or Fe<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub>.

Our data indicate that the mix of flavonoids present in bergamot juice may be of use in preventing oxidative cell injury and pave the way for further research into a novel healthy approach to avoid lung disorders.

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