

The French Paradox

Despite:

- Eating 3.8x more butter.
- Having higher blood cholesterol.
- Having higher blood pressure.

The French have only 30% of the heart attack rate of Americans. The key is moderate consumption of red wine: One of the active ingredients is resveratrol, a polyphenol.

Recommended daily intake of flavonoids (another type of polyphenol): 150-500mg to protect against chronic heart disease.

National Cancer Institute and National Research Council in the US recommend:

5 servings of fruit and/or vegetables per day. Out of 15,000 surveyed, only 17% Americans achieved this intake.

Flavonoids protect against other types of disease:

- certain types of cancer.
- age-related degenerative diseases.

Complicating Factors:

- Many different phenolics made by plants are protective.
- Flavonoids accumulate in plants largely as glycosides but only the non-glycosylated forms are absorbed in the gut.
- Different flavonoids may be metabolised to different extents following absorption, and metabolism affects their ability to protect against disease.

Flavonoids protect in a variety of ways:

- Acting as antioxidants to inhibit low density lipid oxidation.
- Inhibiting blood platelet aggregation.
- Acting as vasorelaxants.

Objectives of FLORA

- to provide a more measured scientific basis for understanding of the role of flavonoids and related phenolics in protecting against disease.
- to provide recommendations for daily intake and a directory of foods which can serve as dependable sources of flavonoids.
- to generate defined dietary material (model foods) to test the impact of specific flavonoids on cardiovascular and age-related degenerative diseases using animal model systems.

- to test the importance of defined flavonoid contents and compositions of foods on parameters defining predisposition to cardiovascular disease in diseased and healthy human studies.
- to conduct a more detailed analysis of the cellular effects of specific flavonoids and related phenolics in mammalian cells to determine their sites and modes of action.
- to investigate how flavonoid content and composition can be optimised by use of breeding, specific cultivation conditions and food processing.
- to assess the bioavailability of specific flavonoids and related phenolics and to gauge their impact on the human gut microflora.

We will integrate the results from FLORA on the protective effects of flavonoids and related phenolics at all the different stages from 'farm to fork' to produce clear recommendations for daily intake.

We will produce a version for public dissemination in a readily accessible format, and these recommendations will include risk assessments.



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Flora

*Flavonoids and related phenolics
for healthy Living using Orally
Recommended Antioxidants*



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