

Grapefruit - A Miracle Fruit For Human Beings

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Grapefruit to be a cross between a sweet orange and a pomelo or shaddock, the first known mention of the grapefruit dates to 1750 on Barbados, according to the Oxford Companion to Food. By 1820, the Chevalier de Tussac, a French botanist, saw them in an official botanical garden and wrote that “the English in Jamaica call this the ‘forbidden fruit’ or ‘smaller shaddock.’” In 1823 they traveled to Florida with a French count named Odette Phillippe, where they slowly gained some commercial popularity. Grapefruit has a strange name, which likely comes from some island amalgam of French and English—the smaller varieties that were the norm when the fruit was first discovered in the Caribbean grew in grape-like clusters. “Grappes” is the French word for cluster. Cluster fruit. The strangeness of the fruit itself and the misleading name made it slower to catch on than sweet, juicy oranges and sunny, tart lemons. That relative obscurity has, on occasion, made the grapefruit a jumping off point to condescend to others with an air of good natured authority, which is a bit of an American pastime.

Grapefruit Nutrition Facts

Specific health benefits of a medium-sized grapefruit (250 grams) include:

- Vitamin C (more than 76 milligrams).
- Vitamin A (180 micrograms).
- Potassium (over 300 milligrams).



- Fiber (4 grams).
- Low in calories (82).
- Lots of antioxidants and phytochemicals.
- Increased iron absorption.

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Vitamin C

Grapefruit's key health benefit is its very high concentration of vitamin C. Vitamin C is an antioxidant that has anti-inflammatory properties. This supports your immune system and may even be able to lower your risk of cancer and other chronic disease, such as diabetes and heart disease that have been linked to long-term, systemic inflammation. One large grapefruit provides 190% of the daily value of vitamin C, which supports your immune system and wound healing. The National Institutes of Health Office of Dietary Supplements recommends that women aged 19 years and older should consume 75 milligrams and men aged 19 years and older consume 90 milligrams of vitamin C each day. Half a medium-sized grapefruit (about 125 grams) contains more than 38 milligrams of vitamin C.

Vitamin A

Grapefruit is also a good source of vitamin A. This fat-soluble vitamin is important for maintaining normal vision. It also supports the immune system and reproduction. The NIH reports that it also helps keep the heart, lungs, kidneys and other organs working properly. Half of a medium-sized grapefruit contains 90 micrograms of vitamin A. People aged 14 years and older should consume between 700 and 900 micrograms of vitamin A daily.

Potassium

Your body needs potassium for just about everything it does. This electrolyte helps ensure proper kidney and heart function, muscle contraction and nerve transmission. Though we usually think about eating more bananas when trying to increase the level of potassium in our diet, many foods offer this vital nutrient. The USDA reports that a small grapefruit (about 200 grams) contains 278 milligrams of potassium. (A medium-sized banana has a little over 400 milligrams.) Men over the age of 19 are advised to consume 3,400 milligrams of potassium daily. Women over the age of 19 are advised to consume 2,600 milligrams of potassium.



Low-Calorie Fiber

In addition to being high in vitamins and minerals, grapefruit is also high in fiber and low in calories. The U.S. Department of Agriculture reports that half a medium grapefruit has just 41 calories.

Antioxidants and Phytochemicals

Antioxidants are compounds found in plants that have been found to inhibit oxidation, which means they can reduce inflammation in the body. Phytochemicals and polyphenols are natural compounds that can also offer health benefits, such as improving blood pressure and lowering inflammation. All this could add up to big health benefits over the long term. Grapefruit ranks very high in antioxidant compounds and has a wide range of polyphenols. Because of these compounds, there have been several studies that suggest that adding grapefruit to a healthful diet may lower your risk of cancer. The American Institute for Cancer Research lists a variety of studies related to grapefruit and grapefruit components and their potential ability to fight cancer. Another small study published in August 2019 suggested that adding grapefruit juice could help boost the effectiveness of certain medications used to manage certain types of incurable cancer.

Iron Absorption

Grapefruit also boosts your body's ability to use the iron found in foods you eat. Grapefruit can help boost iron absorption, so if you're low in iron, it's great to eat grapefruit with iron-rich foods to improve absorption.

A Word of Caution

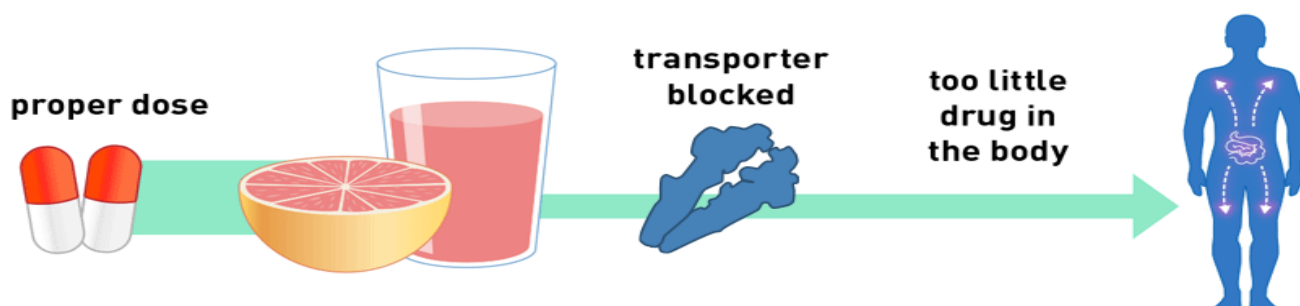
Although grapefruit is considered a very healthy fruit, particularly when consumed whole rather than juiced, some people may want to avoid this citrus fruit altogether. Grapefruit and grapefruit juice can interact with several medications, including those that treat conditions like high cholesterol and high blood pressure.

How Grapefruit Juice Affects Some Drugs

When drugs are swallowed, they may be broken down (metabolized) by enzymes and/or absorbed using transporters in cells found in the small intestine. Grapefruit juice can cause problems with these enzymes and transporters, causing too much or too little drug in the body.



Some drugs, like certain statins used to lower cholesterol, are broken down by enzymes. As shown above, grapefruit juice can block the action of these enzymes, increasing the amount of drug in the body and may cause more side effects.



Other drugs, like fexofenadine, are moved by transporters into the body's cells. As shown above, grapefruit juice can block the action of transporters, decreasing the amount of drug in the body and may cause the drug to not work as well.

Grapefruit juice and grapefruit can affect the way your medicines work, and that food and drug interaction can be a concern. The U.S. Food and Drug Administration has required that some prescription and over-the-counter (OTC) drugs generally taken by mouth include warnings against drinking grapefruit juice or eating grapefruit while taking the drug.

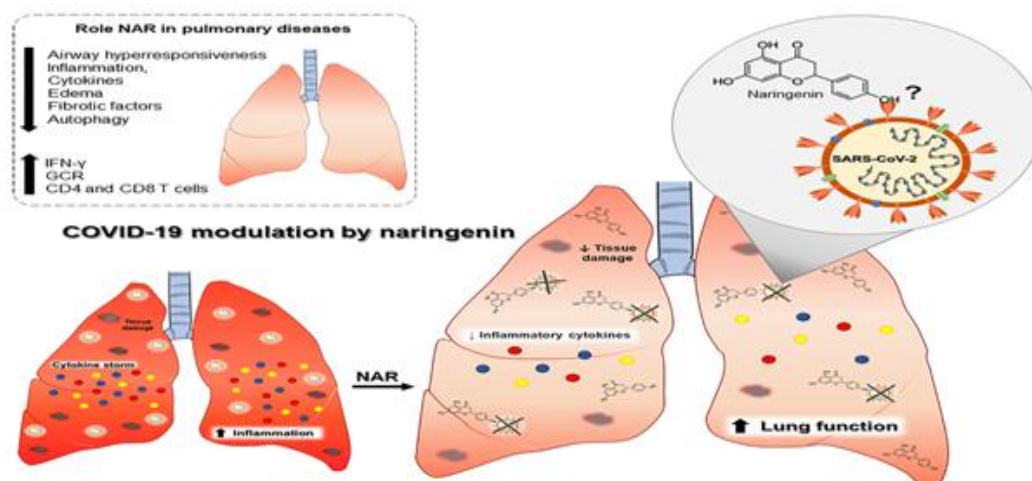
Here are examples of some types of drugs that grapefruit juice can cause problems (interact)

- Some statin drugs to lower cholesterol, such as Zocor (simvastatin) and Lipitor (atorvastatin).
- Some drugs that treat high blood pressure, such as Procardia and Adalat CC (both nifedipine).
- Some organ-transplant rejection drugs, such as Neoral and Sandimmune capsule or oral solution (both cyclosporine).
- Some anti-anxiety drugs, such as BuSpar (buspirone).
- Some corticosteroids that treat Crohn's disease or ulcerative colitis, such as Entocort EC and Uceris tablet (both budesonide).

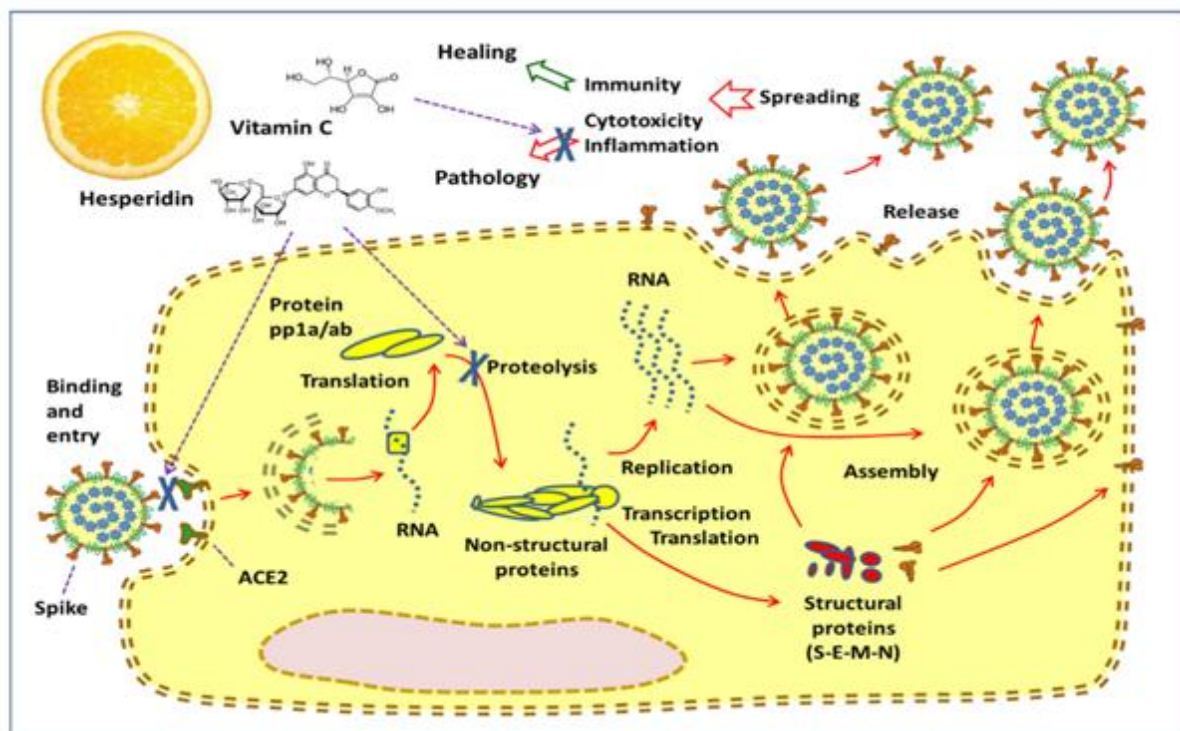
- Some drugs that treat abnormal heart rhythms, such as Pacerone and Cordarone tablet (both amiodarone).
- Some antihistamines, such as Allegra (fexofenadine).

Grapefruit is effective against coronaviruses

Among the flavonoids, hesperidin has recently attracted the attention of researchers, because it binds to the key proteins of the Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Several computational methods, independently applied by different researchers, showed that hesperidin has a low binding energy, both with the coronavirus “spike” protein, and with the main protease that transforms the early proteins of the virus (pp1a and pp1b) into the complex responsible for viral replication. The binding energy of hesperidin to these important components is lower than that of lopinavir, ritonavir, and indinavir, suggesting that it could perform an effective antiviral action. Furthermore, both hesperidin and ascorbic acid counteract the cell damaging effects of the oxygen free radicals triggered by virus infection and inflammation. There is discussion about the preventive efficacy of vitamin C, at the dose achievable by the diet, but recent reviews suggest that this substance can be useful in the case of strong immune system burden caused by viral disease. Computational methods and laboratory studies support the need to undertake apposite preclinical, epidemiological, and experimental studies on the potential benefits of citrus fruit components for the prevention of infectious diseases, including COVID-19.



Outline of the putative role of naringenin in COVID-19 pulmonary pathophysiology.



Cellular cycle of the Severe acute respiratory syndrome coronavirus 2 virus

Conclusion

Grapefruits are low in calories but full of nutrients, it provides calories, niacin, ascorbic acid, vitamin A, potassium, phosphorus, calcium, carbohydrate, protein, fat, iron, sodium, riboflavin and thiamine. Grapefruit juice help to lower risk from many diseases and also help to reduce cholesterol as well as concerned with problems of over nutrition, obesity and diet-related chronic diseases. Grapefruit has potentiated effects can be used in practice for reduction of drug doses. Understanding of Grapefruit-drug interactions would be useful for the planning of drug therapy. Further it has been reported that it has multiple biological actions of hesperidin and vitamin C, two major components of grapefruit which appear to be effective candidates to counteract the cell infection by SARS-CoV-2, and to modulate the systemic immunopathological phases of the disease. Further adequate intake of grapefruit or their extracts could effectively contribute to the strategies for the prevention of COVID-19.