

FUROCOUMARIN/FURANOCOUMARINS

Furocoumarins, more widely known as furanocoumarins, are members of a chemical family produced by an array of plants. The distinctive molecular feature of furanocoumarins is the five-membered ring structure. Most commonly found in citrus plants, furanocoumarins act as defense mechanisms against fungi, bacteria and insects¹.



FURANOCOUMARIN FAST FACTS

- Furanocoumarins commonly originate from citrus fruits such as grapefruit, lemons, limes, and oranges; additionally, furanocoumarins have also been identified in celery, carrots, parsley and herbs such as cilantro and dill².
- All citrus fruits are crosses and hybrids of five ancestral species of citrus, including kumquats, papedas, citrons, pomelos and mandarins³. Interestingly, grapefruits have the highest furanocoumarin levels, while mandarins have exceptionally low or absent levels of these compounds⁴.

Many furanocoumarin sources, such as citrus fruits and their oils, are widely used in the human wellness field. Bergamot oil, sourced from the bergamot orange peel, is popularly used in perfume, tea and essential oil therapy.

Furanocoumarins can have some adverse effects from a pharmacological standpoint, a phenomenon well documented as the “grapefruit juice effect”; these compounds can be the culprit of negative medication interactions by interfering with liver and intestinal enzymes⁵.



FURANOCOUMARIN MVP's

- **Bergamottin:** the major grapefruit furanocoumarin, bergamottin, has been indicated to have an inhibitory effect on breast cancer cell growth by suppressing cancer cell proliferation in some trials⁵.
- **Psoralen:** this compound, in combination with ultraviolet A light, has been demonstrated to improve dermatitis and other skin conditions⁶.

ChromaDex provides a number of chemical reference standards within the furanocoumarin family, including but not limited to: bergamottin, heraclenin, oxypeucedanin, and others. All members of the furanocoumarin family can be searched on ChromaDex's online catalog at chromadex.com/chromadex-catalog/

References

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