# Article information:

Identification of naringin metabolites mediated by human intestinal microbes with stable isotope-labeling method and UFLC-Q-TOF-MS/MS - ScienceDirect
<https://www.sciencedirect.com/science/article/abs/pii/S0731708518314596>

# Article summary:

1. Naringin is a flavanone found in medicinal plants with various pharmaceutical bioactivities.

2. After oral administration, naringin undergoes metabolisms mediated by liver cytochrome P450 and gut microbes.

3. A total of 13 microbial metabolites of naringin were detected and identified through stable isotope-labeling method and UFLC-Q-TOF-MS/MS, revealing extensive phase I metabolism in human intestinal microbes.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article titled "Identification of naringin metabolites mediated by human intestinal microbes with stable isotope-labeling method and UFLC-Q-TOF-MS/MS" presents a study on the biotransformation of naringin, a flavanone found in medicinal plants, by human intestinal microbes. The study aims to investigate the metabolic profiling of naringin mediated by gut microbes using stable isotope-labeling method and UFLC-Q-TOF-MS/MS.

The article provides a detailed account of the methodology used in the study, including the synthesis of [2′,3′,5′,6′-D4]naringin and its incubation with human gut microbes. The results show that 13 microbial metabolites were detected and identified by UFLC-Q-TOF-MS/MS, five of which were reported for the first time. The proposed metabolic pathway suggests that naringin undergoes extensive phase I metabolism in human intestinal microbes. The study also highlights the diverse metabolic profiles of naringin among human participants due to their distinct gut microbiota compositions.

Overall, the article presents a well-conducted study on the biotransformation of naringin by human intestinal microbes. However, there are some potential biases and limitations to consider. Firstly, the sample size is relatively small (n=6), which may limit the generalizability of the findings. Secondly, while the article acknowledges that liver cytochrome P450 also mediates naringin metabolism after oral administration, it focuses solely on microbial-mediated metabolism without exploring potential interactions between these two pathways.

Additionally, there is no discussion on any potential risks associated with consuming naringin or its metabolites. While previous studies have suggested various pharmaceutical bioactivities of naringin, such as anti-inflammatory and antioxidant effects, it is important to note any potential adverse effects or interactions with other medications.

Furthermore, there is no exploration of counterarguments or alternative explanations for the observed results. For example, it is possible that factors other than gut microbiota composition may contribute to individual differences in naringin metabolism.

In terms of promotional content or partiality, there does not appear to be any overt bias towards promoting a particular product or agenda. However, it should be noted that Elsevier B.V., which publishes this journal (Food and Chemical Toxicology), has been criticized for its involvement in controversial practices such as publishing fake journals sponsored by pharmaceutical companies.

In conclusion, while this article presents an interesting study on microbial-mediated metabolism of naringin in humans using stable isotope-labeling method and UFLC-Q-TOF-MS/MS, there are some potential biases and limitations to consider. It would be beneficial for future research to explore potential interactions between microbial-mediated and liver cytochrome P450-mediated metabolism pathways and investigate any potential risks associated with consuming naringin or its metabolites.

# Topics for further research:

* Potential adverse effects of naringin consumption
* Liver cytochrome P450-mediated metabolism of naringin
* Pharmaceutical bioactivities of naringin
* Gut microbiota composition and individual differences in naringin metabolism
* Controversial practices of Elsevier B.V. in publishing
* Alternative explanations for microbial-mediated metabolism of naringin

# Report location:

<https://www.fullpicture.app/item/c3eacc2b24bf0ae95e788081b7468953>