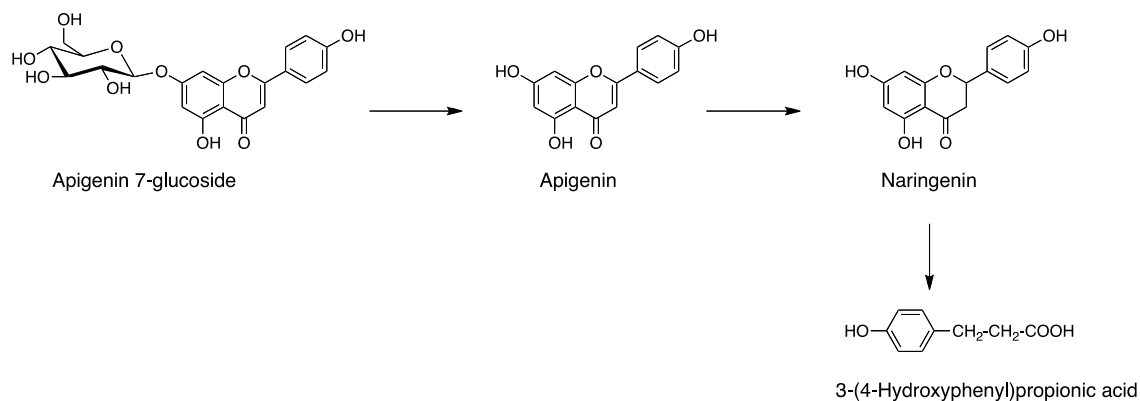


## Apigenin 7-glucoside



【化合物】 Apigenin 7-glucoside

【測定機器】 HPLC

【対象】 動物（ラット）、微生物（ヒト及びラット腸内細菌）

【代謝実験】 ラット糞便、無菌ラット糞便、ヒト腸内細菌ラットを用いて検討。

The impact of human intestinal microbiota on bioavailability of apigenin 7-glucoside (A7G) was investigated by comparing germ-free and human microbiota-associated (HMA) rats; by incubating with the human intestinal microbiota (fecal suspension), A7G was converted to apigenin, naringenin, and 3-(4-hydroxyphenyl)propionic acid as main metabolites. After application of A7G to germ-free rats, apigenin, luteorin, and their conjugates were detected in urine and feces. In HMA rats, naringenin, eriodictyol, phloretin, 3-(3,4-dihydroxyphenyl)propionic acid, 3-(4-hydroxyphenyl)propionic acid, 3-(3-hydroxyphenyl)propionic acid, and 4-hydroxycinnamic acid in their free and conjugated forms were additionally formed. In whole-blood samples from germ-free and HMA rats, only apigenin conjugates and phloretin, respectively, were detected. The total excretion of A7G and its metabolites within 48 h was similarly low in both germ-free and HMA rats, with 11 and 13% of the A7G dose, respectively. In germ-free rats, A7G metabolites dominated by apigenin and as conjugates were mainly excreted with feces, in contrast, the compounds in HMA rats were predominantly recovered from urine, 3-(4-hydroxyphenyl)propionic acid being the main metabolite. The ability of selected gut bacteria and the host intestinal

mucosa to deglycosylate A7G was tested using cell extracts. Apigenin was formed by cytosolic extracts of *Eubacterium ramulus* and *Bacteroides distasonis* and by the microsomal fraction of the small intestinal mucosa of rats. Overall, human intestinal microbiota largely contributed to A7G metabolism, indicating its influence on the bioactivity of flavones.

[Hanske et al., *J Nutr* **139**: 1095-1102 (2009)].

【参考文献】

Laura Hanske, Gunnar Loh, Silke Sczesny, Michael Blaut, Annett Braune, The bioavailability of apigenin-7-glucoside is influenced by human intestinal microbiota in rats. *The Journal of Nutrition* **139**, 1095-1102 (2009).