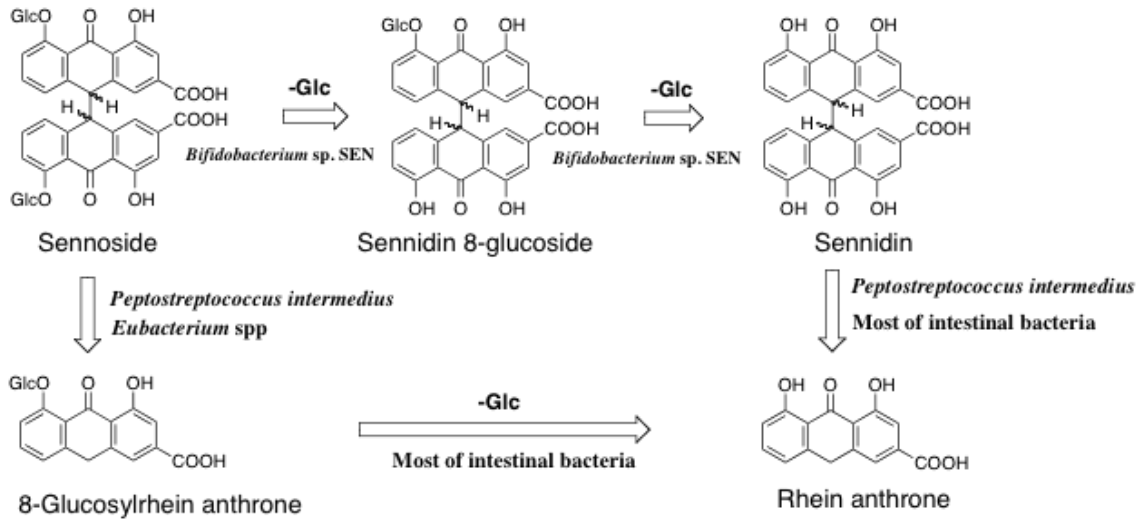


Sennoside B



Metabolic processes of sennoside by human intestinal bacteria

代謝実験

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動物代謝 ラット

単一化合物 sennoside B

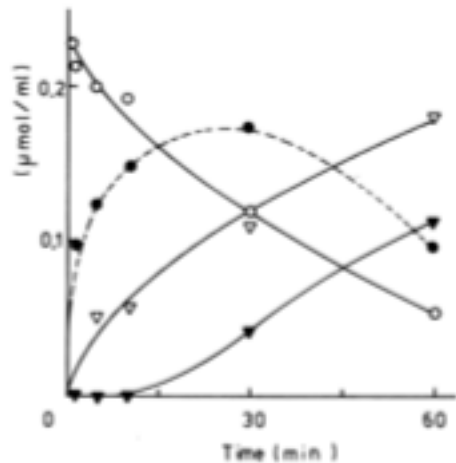


Fig. 1. Metabolism of sennoside B by a suspension of rat feces.

○, sennoside B; ●, sennidin B 8-glucosides; ▽, sennidin B; ▼, sennidin A
 [Hattori *et al.*, *Chem. Pharm. Bull.*, **30**, 1338-1346 (1982)]

Preparation of a suspension of rat feces and its supernatant fluid

Fresh feces (20 g) of Wistar rats (female, 180—220 g body weight) were suspended in 100 mM phosphate buffer (200 ml, pH 7.3) containing 0.05% cysteine, which had previously been bubbled through with carbon dioxide to eliminate air. The supernatant fluid was prepared by centrifuging the suspension at 10000 rpm for 10 min.

[Hattori *et al.*, *Chem. Pharm. Bull.*, **30**, 1338-1346 (1982)]

Incubation of sennoside B with a suspension of rat feces and quantitative analysis of its metabolites

To 5 ml of a suspension of rat feces was added 500 μ l of a sennoside B solution (1 mg/ml, dissolved in 100 mM phosphate buffer, pH 7.3). After replacing air in the test tube with carbon dioxide, the mixture was incubated at 37°C for the indicated periods of time. The tube was then immediately cooled and centrifuged at 10000 rpm for 10 min. Next, 2% ethylenediaminetetraacetic acid (EDTA) (0.5 ml), 0.5 N HCl (0.5 ml) and *n*-BuOH (2 ml) were added to 2 ml of the upper layer. After vigorous shaking, the mixture was centrifuged at 3000 rpm for 10 min to separate it into two layers. Five μ l of the upper layer was applied on a silica gel thin-layer plate (Merck Silica gel 60 F254, layer thickness 0.25 mm). The plate was then developed with a solvent system A, *n*-PrOH–AcOEt–H₂O (4: 4: 3, v/v) containing a few drops of AcOH. The spots on chromatogram were detected under ultraviolet (UV) light and analyzed quantitatively by using a Shimadzu CS-910 chromatoscanner (Shimadzu Seisakusho Ltd., Kyoto).

[Hattori *et al.*, *Chem. Pharm. Bull.*, **30**, 1338-1346 (1982)]

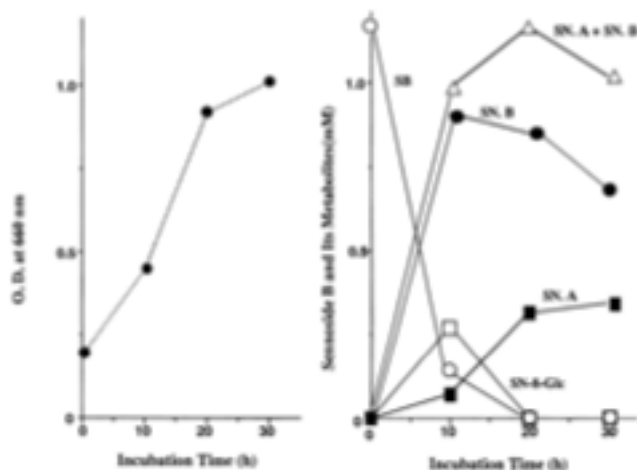


Fig. 2. Time course of sennoside B metabolism in PYF broth by *Bifidobacterium* sp. strain SEN.

Left: ●, bacterial growth. Right: ○, sennoside B (SB), ●, sennidin B (SN. B); □, sennidin B 8-glucoside (SN-8-Glc); ■, sennidin A (SN. A); △, sennidins A and B (SN. A+SN. B). [Akao *et al.*, *Applied and Environmental Microbiology*, **60**, 1041-1043 (1994)]

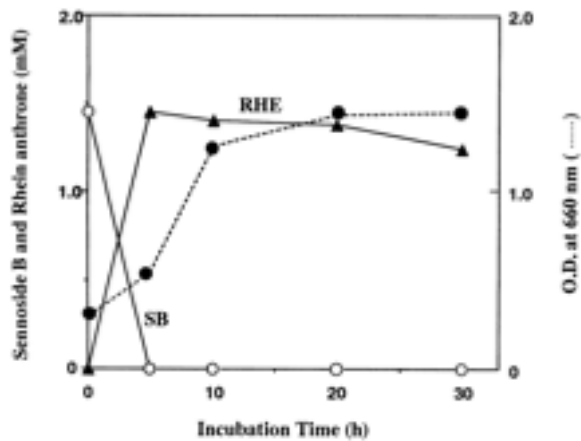


Fig. 3. Metabolism of sennoside B in PYF broth by a mixed culture of *Bifidobacterium* sp. strain SEN and *Peptostreptococcus intermedius*.

Rhein anthrone (RHE: ▲) was detected as an azometin derivative by adding *N,N'*-dimethyl-*p*-nitrosoaniline. O.D., optical density. [Akao *et al.*, *Applied and Environmental Microbiology*, **60**, 1041-1043 (1994)]

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