

Sesquiterpenoids from the Fruit Bodies of *Russula delica*

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The fruit bodies of *Russula delica* FR. (Shirohatsu in Japanese, Russulaceae) are known as an edible mushroom. The constituents of *R. delica* have been previously investigated and shown to contain protoilludane sesquiterpenoids.¹⁾ It has been reported that the extract of the fruit bodies of *R. delica* can inhibit 12-*O*-tetradecanoylphorbol-13-acetate (TPA)-induced inflammatory ear edema in mice.²⁾ We recently reported the isolation and structure elucidation of a norsesquiterpenoid from the fruit bodies of *R. delica*.³⁾ In present paper, we report the isolation and identification of five sesquiterpenoids from the material.

The fresh fruit bodies of *R. delica* (1.7 kg) was extracted with E₂O. The E₂O extract (11.2 g) was subjected to silica gel column chromatography and subsequent preparative HPLC to afford **1** (3.7 mg), **2** (7.7 mg), **3** (62.6 mg), **4** (1.7 mg) and **5** (0.8 mg). The structures of **1** - **5** were identified as isolactarorufin,⁴⁾ lactarorufin A,⁵⁾ lactarorufin B,⁶⁾ 14-hydroxylactarolide A⁷⁾ and 3-*O*-methyllactarolide B,⁸⁾ respectively, by comparison of their spectral data with those in the literature. This is the first time that compounds **1** - **5** have been isolated from the fruit bodies of *R. delica*.

REFERENCES

- 1) Clericuzio M., Han F., Pan F., Sterner O., *Acta Chem. Scand.*, **52**, 1333–1337 (1998).
- 2) Yasukawa K., Kanno H., Kaminaga T., Takido M., Kasahara Y., Kumaki K., *Phytother. Res.*, **10**, 367–369 (1996).
- 3) Yaoita Y., Ono H., Kikuchi M., *Chem. Pharm. Bull.*, **51**, 1003–1005 (2003).
- 4) Daniewski W. M., Kocor M., Thoren S., *Polish J. Chem.*, **52**, 561–572 (1978).
- 5) Kobata K., Kano S., Shibata H., *Biosci. Biotech. Biochem.*, **59**, 316–318 (1995).
- 6) Daniewski W. M., Gumulka M., Skibicki P., *Phytochemistry*, **29**, 527–529 (1990).
- 7) Daniewski W. M., Gumulka M., Ptaszynska K., Sitkowski J., Skibicki P., Jacobsson U., Norin T., *Bull. Polish Acad. Sci. Chem.*, **39**, 251–255 (1991).
- 8) Garnier J., Mahuteau J., Plat M., *Plantes Medicinales et Phytothrapie*, **24**, 87–91 (1990).

