

Biosynthetic Origin of the 1-Oxygen of Umbelliferone in the Root Tissue of Sweet Potato

Bun-ichi Shimizu*, Kosuke Kai, Michiko Tamai, Hikaru Yamaguchi, Masaharu Mizutani, and Kanzo Sakata

Institute for Chemical Research, Gokasho Uji, Kyoto, 611-0011, Japan. Fax: +81-774-38-3229.
E-mail: bsimz@scl.kyoto-u.ac.jp

* Author for correspondence and reprint requests

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Oxidation of *p*-coumarate at the *ortho*-position is a key step to form umbelliferone. A tracer analysis using $^{18}\text{O}_2$ was performed in order to take information about the formation of umbelliferone in the root tissue of sweet potato. Mass fragmentation experiments revealed incorporation of an ^{18}O atom into the 1-position of umbelliferone. This result indicates that the lactone of umbelliferone is formed *via ortho*-hydroxylation of the *p*-coumarate unit using O_2 .

Key words: *ortho*-Hydroxylation, Umbelliferone, Sweet Potato