

***Periploca sepium* Bunge as a Model Plant for Rubber Biosynthesis Study**

Takeshi Bamba^{a,c,e}, Tomoki Sando^a, Asuka Miyabashira^{b,f}, Koichiro Gyokusen^b, Yoshihisa Nakazawa^c, Yinquan Su^d, Eiichiro Fukusaki^{a,*}, and Akio Kobayashi^a

^a Department of Biotechnology, Graduate School of Engineering, Osaka University,
2-1 Yamadaoka, Suita, Osaka 565-0871, Japan. Fax: +(81)6-6879-7424.
E-mail: fukusaki@bio.eng.osaka-u.ac.jp

^b Department of Forest and Forest Products Sciences, Faculty of Agriculture, Graduate
Schools of Kyushu University, Hakozaki 6-10-1, Higashi-ku, Fukuoka 812-8581, Japan

^c Technical Research Institute, Hitachi Zosen Corporation, 2-2-11 Funamachi, Taisyō-ku,
Osaka 551-0022, Japan

^d Forestry Faculty, Northwest Sci-Tech University of Agriculture and Forestry, No. 3,
Tai Cheng Road, Yang Ling, Shaanxi 712100, China

^e Department of Applied Environmental Biology, Graduate School of Pharmaceutical
Sciences, Osaka University, 1-6 Yamadaoka, Suita, Osaka 565-0871, Japan

^f Present address: Osaka branch, Takeda Pharmaceutical Company Ltd., 2-3-8 Doshomachi,
Chuo-ku, Osaka 541-0045, Japan

* Author for correspondence and reprint requests

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Periploca sepium Bunge (Chinese silk vine) is a woody climbing vine belonging to the family Asclepiadaceae. It originally comes from Northwest China. *Periploca* resembles the Para-rubber tree, *Hevea brasiliensis*, regarding a similar body plan to produce a milky exudate containing rubber latex. The *Periploca* plant was assessed as a rubber-producing plant by rubber structure elucidation and its molecular weight distribution. A rubber fraction purified from the milky exudate was subjected to ¹H NMR analysis, and a characteristic signal derived from *cis*-polyisoprene was observed. In addition, when the molecular weight distribution of rubber components in the exudate was measured (using size-exclusion chromatography), the number-average molecular weight (*M_n*), weight-average molecular weight (*M_w*), and polydispersity (*M_w/M_n*) were estimated to be *M_n* = 1.3×10^5 , *M_w* = 4.1×10^5 , and *M_w/M_n* = 3.1, respectively. Furthermore, the presence of polyisoprene, with *M_n* = 4.0×10^4 , *M_w* = 7.6×10^4 , and *M_w/M_n* = 2.5, was also confirmed in plantlets obtained from shoots as a result of tissue culture.

Key words: Polyisoprene, Rubber, *Periploca sepium*