

## 2703-1 (Diterpene)

Name: Aplysiadiol {1-Bromo-6-(5-hydroxy-1,5-dimethyl-hexa-1,3-dienyl)-8a-methyl-4-methylene-octahydro-naphthalen-4a-ol}

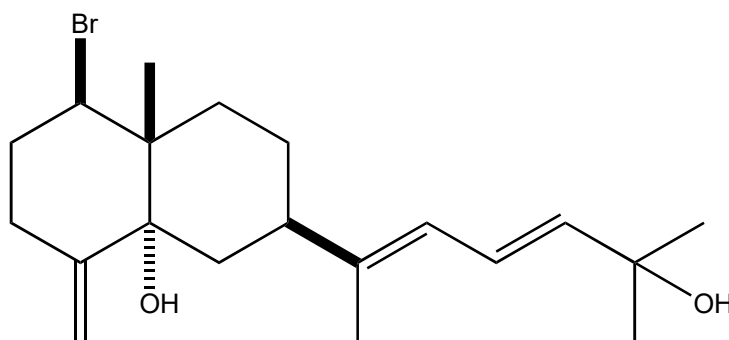
Origin: *Laurencia japonensis* (Chinzei, Saga; Heki, Yamaguchi; Mihonoseki, Shimane; Iwami, Tottori; Toyooka, Hyogo; Shimoda, Shizuoka, Japan)<sup>(1)</sup>;  
*Laurencia japonensis* (the coast of Yoshio, Katsuura, Chiba Prefecture, Japan)<sup>(2)</sup>;  
*Laurencia caduciramulosa* (Hon Tre Island, Tien Hai Islands, Hatien, Kien Giang Province, Vietnam)<sup>(3)</sup>;  
*Laurencia nangii* (Pulau Bai, Sandakan, Sabah, Malaysia)<sup>(4,6)</sup>;  
*Laurencia* sp. (Selakan Island, Sabah, Malaysia)<sup>(5)</sup>;  
*Aplysia kurodai* (Mie, Japan)<sup>(7)</sup>;

Formula: C<sub>20</sub>H<sub>31</sub>BrO<sub>2</sub>

Mol. Wt.: 383.36

Opt. Rot.: [ $\alpha$ ]<sub>D</sub><sup>16</sup> -60.7 (CHCl<sub>3</sub>)<sup>(5)</sup>

Mp.: Oil<sup>(5)</sup>



### References and Notes

- (1) Takahashi, Y., Suzuki, M., Abe, T., and Masuda, M. 1998. *Phytochemistry*, **48**, 987-990. Anhydroaplysiadiol from *Laurencia japonensis*. (<sup>1</sup>H-NMR, <sup>13</sup>C-NMR) (together with [aplysiadiol](#), anhydroaplysiadiol, 2,10-dibromo-3-chloro- $\alpha$ -chamigrene)
- (2) Ishii, T., Miyagi, M., Shinjo, Y., Minamida, Y., Matsuura, H., Abe, T., Kikuchi, N., and Suzuki, M. 2020. *Nat. Prod. Res.*, **43**, (No. 19) 2787-2793. Two new brominated C<sub>15</sub>-acetogenins from the red alga *Laurencia japonensis*. (together with katsuurenynes A and B, [aplysiadiol](#), 2,10-dibromo-3-chloro- $\alpha$ -chamigrene)
- (3) Masuda, M., Kawaguchi, S., Takahashi, Y., Matsuo, Y., and Suzuki, M. 1997. *Cryptogamy, Algol.*, **18**, 1-10. A taxonomic study of the genus *Laurencia* (Ceramiales, Rhodophyta) from Vitnam. I. *Laurencia caduciramulosa* Masuda et Kawaguchi, sp. nov. (together with [aplysiadiol](#), deoxyprepacifenol, laurenenyne-A, laurenenyne-B)
- (4) Masuda, M., Abe, T., Kogame, K., Kawaguchi, S., Phang, S. M., Daitoh, M., Sakai, T., Takahashi, Y., and Suzuki, M. 2002. *Botanica Marina*, **45**, 571-579. Taxonomic notes on marine algae from Malaysia. VIII. Three species of *Laurencia* (Rhodomelaceae). (together with *cis*-pinnatifidenyne, obtusenyne, (3*Z*)-laurenenyne, [aplysiadiol](#))<sup>(6)</sup>
- (5) Vairappan, C. S., Ishii, T., Tan, K. L., Suzuki, M., and Zhaogi, Z. 2010. *Mar. Drugs*, **8**, 1743-1749. Antibacterial activities of a new brominated diterpene from Borneon *Laurencia* spp.

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References and Notes

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- (6) Aplysiadiol may have derived from the concomitant *Laurencia* sp. growing between thallus of *L. nangii*; Kamada, T. and Vairappan. 2012. *Molecules*, **17**, 2119-2125. A new bromoallene-producing chemical type of the red alga *Laurencia nangii* Masuda.
- (7) **From the sea hare**; Ojika, M., Yoshida, Y., Okumura, M., Ieda, S., and Yamada, K. 1990. *J. Nat. Prod.*, **53**, 1619-1622. Aplysiadiol, a new brominated diterpene from the marine mollusc *Aplysia kurodai*. **(IR, <sup>1</sup>H-NMR, <sup>13</sup>C-NMR, MS)**
- (8) **Synthesis**; Niwa, H., Ieda, S., Inagaki, H., and Yamada, K. 1990. *Tetrahedron Lett.*, **31**, 7157-7158. A biogenetic type synthesis of (*dl*)-aplysiadiol, a brominated diterpene isolated from the marine mollusc *Aplysia kurodai*.
- (9) **Biosynthesis**; Suzuki, M., Takahashi, Y., Nakano, S., Abe, T., Masuda, M., Ohnishi, T., Noya, Y., and Seki, K. 2009. *Phytochemistry*, **70**, 1410-1415. An experimental approach to study the biosynthesis of brominated metabolites by the red algal genus *Laurencia*.