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[\[Image PDF \(450K\)\]](#) [\[References\]](#)**Synthesis of a Castasterone/Ponasterone Hybrid Compound and Evaluation of Its Molting Hormone-Like Activity****Bunta WATANABE¹⁾, Yoshiaki NAKAGAWA¹⁾ and Hisashi MIYAGAWA¹⁾**

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Castasterone/ponasterone hybrid compound, (20R)-2 α ,3 α ,20, 22-tetrahydroxy-5 α -cholestan-6-one, was newly synthesized from the corresponding α -alkoxystannane, in which the α -hydroxy group was protected with a benzyloxymethyl ether, and 6,6-ethylenedioxy-2 α ,3 α -isopropylidenedioxy-5 α -pregnan-20-one. The inhibition of the incorporation of [³H] ponasterone A into two insect cell lines was examined, and the concentrations of this hybrid compound required to give 50% inhibition were determined to be 0.29 μ M and 0.89 μ M for Kc and Sf-9 cells, respectively. This hybrid compound was 10 times more potent than ecdysone, but 100-200 times less potent than ponasterone A. The potency of this compound was equivalent to inokosterone against Sf-9 cells. The molting hormonal effect of this compound was also evaluated in the cultured integument system of the rice stem borer *Chilo suppressalis* for the induction of chitin synthesis, and the 50% effective concentration was determined to be about 10 μ M, equipotent to ecdysone.

Keywords:[³H]ponasterone, ecdysone, molting hormonal activity, *Chilo suppressalis*, insect cells[\[Image PDF \(450K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)

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