ONLINE ISSN : 1349-0923
PRINT ISSN : 1348-589X

Journal of Pesticide Science
Vol. 33 (2008) , No. 4 pp.383-386

[PDF (72K)] [References]

Juvenile hormone activity of optically active ethyl 4-(2-benzylalkyloxy) benzoates inducing precocious metamorphosis

Norihiro Fujita[1)], Kenjiro Furuta[1)], Kiyo Ashibe[1)], Shuhei Yoshida[1)], Naotaka Yamada[1)], Takahiro Shiotsuki[2)], Makoto Kiuchi[2)] and Eiichi Kuwano[1)]

1) Laboratory of Pesticide Chemistry, Department of Applied Genetics and Pest Management, Faculty of Agriculture, Kyushu University
2) Invertebrate Gene Function Research Unit, National Institute of Agrobiological Science

(Received: June 25, 2008)
(Accepted for publication: July 17, 2008)

Abstract:
A series of ethyl 4-(2-benzylalkyloxy)benzoates possessing precocious metamorphosis-inducing activity showed juvenile hormone (JH) activity when topically applied to allatectomized 4th instar larvae of *Bombyx mori*. Hexyl (KF-13) and heptyl analogs, which induced precocious metamorphosis at low doses, had relatively high JH activity. In both compounds, (*S*)-enantiomers were more active than (*R*)-enantiomers. A correlation was observed between JH activity and anti-JH activity in the ethyl 4-(2-benzylalkyloxy)benzoate series. Replacement of the 4-ethoxycarbonyl group with a 4-ethyl or 3,4-methylenedioxy group in KF-13 eliminated both JH and anti-JH activity. © Pesticide Science Society of Japan

Keywords:
juvenile hormone, anti-juvenile hormone, precocious metamorphosis, silkworm

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To cite this article:

Norihiro Fujita, Kenjiro Furuta, Kiyo Ashibe, Shuhei Yoshida, Naotaka Yamada, Takahiro Shiotsuki, Makoto Kiuchi and Eiichi Kuwano, “Juvenile hormone activity of optically active ethyl 4-(2-benzylalkyloxy)benzoates inducing precocious metamorphosis”. *J. Pestic. Sci.* Vol. **33**, pp.383-386 (2008) .

doi:10.1584/jpestics.G08-22

JOI JST.JSTAGE/jpestics/G08-22