Title	Studies on macrocyclic lactone antibiotics XI. anti-mitotic and anti-tubulin activity of new antitumor antibiotics, rhizoxin and its homologues
Sub Title	
Author	高橋, 正明(Takahashi, Masaaki) 岩崎, 成夫(Iwasaki, Shigeo) 小林, 久芳(Kobayashi, Hisayoshi) 奥田, 重信(Okuda, Shigenobu) 村井, 知子(Murai, Tomoko) 佐藤, 良博(Sato, Yoshihiro) 平岡(原口), 徳子(Hiraoka(Haraguchi), Tokuko) 長野, 弘(Nagano, Hiroshi)
Publisher	共立薬科大学
Publication year	1987
Jtitle	共立薬科大学研究年報 (The annual report of the Kyoritsu College of Pharmacy). No.32 (1987.) ,p.65- 66
JaLC DOI	
Abstract	
Notes	抄録
Genre	Technical Report
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000032-0065

Studies on Macrocyclic Lactone Antibiotics XI. Anti-mitotic and Anti-tubulin Activity of New Antitumor Antibiotics, Rhizoxin and Its Homologues*

Masaaki TAKAHASHI**, Shigeo IWASAKI**, Hisayoshi KOBAYASHI**, Shigenobu OKUDA**, Tomoko MURAI, Yoshihiro SATO, Tokuko HARAGUCHI-HIRAOKA***, and Hiroshi NAGANO***

高橋正明**, 岩崎成夫**, 小林久芳**, 奥田重信**, 村井知子, 佐藤良博, 平岡(旧姓原口)徳子***, 長野　弘***

The mode of action of rhizoxin (1a), a new antitumor macrolide, was investigated. Rhizoxin inhibited fusion of the male and the female pronuclei in feritilized sea urchin eggs and inhibited cilia formation in the deciliated sea urchin embryos. *In vitro*, poly-

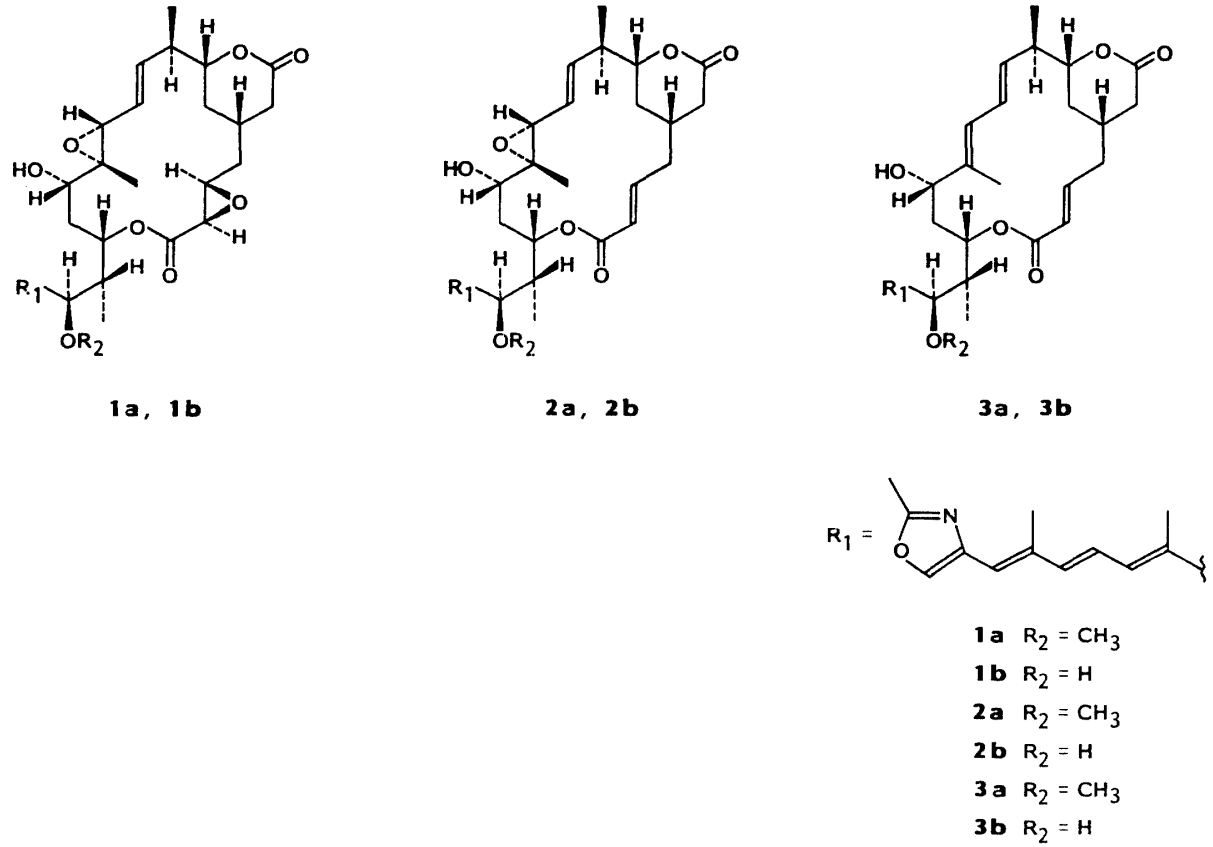

Fig. 1. Structure of naturally occurring rhizoxin homologues.

* 本報告は *J. Antibiotics*, **40**, 66—72 (1987) に発表.

** 東大応微研

*** 山内製薬株式会社中央研

merization of tubulin isolated from porcine brains was completely inhibited at a 1×10^{-5} M concentration of rhizoxin, and tubulin which had been polymerized by incubation at 37℃ for 30 minutes was depolymerized by addition of 1×10^{-5} M of the drug. Activity of rhizoxin against tubulin polymerization was compared with those of other anti-tubulin drugs such as colchicine, vinblastine and ansamitocin P-3. The homologues of rhizoxin, 1b～3b, also inhibited polymerization of the purified microtubule protein at almost the same extent as rhizoxin.