

Title	The 3-hydroxy group of lanosterol is essential for orienting the substrate in the substrate site of cytochrome P-450 <sub>14</sub> DM (lanosterol 14 $\alpha$ -demethylase)
Sub Title	
Author	青山, 由利(Aoyama, Yuri) 吉田, 雄三(Yoshida, Yuzo) 園田, よし子(Sonoda, Yoshiko) 佐藤, 良博(Sato, Yoshihiro)
Publisher	共立薬科大学
Publication year	1990
Jtitle	共立薬科大学研究年報 (The annual report of the Kyoritsu College of Pharmacy). No.35 (1990. ) ,p.54- 54
JaLC DOI	
Abstract	
Notes	抄録
Genre	Technical Report
URL	<a href="https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000035-0054">https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000035-0054</a>

慶應義塾大学学術情報リポジトリ(KOARA)に掲載されているコンテンツの著作権は、それぞれの著作者、学会または出版社/発行者に帰属し、その権利は著作権法によって保護されています。引用にあたっては、著作権法を遵守してご利用ください。

The copyrights of content available on the Keio Associated Repository of Academic resources (KOARA) belong to the respective authors, academic societies, or publishers/issuers, and these rights are protected by the Japanese Copyright Act. When quoting the content, please follow the Japanese copyright act.

**The 3-hydroxy group of lanosterol is essential for orienting the  
substrate in the substrate site of cytochrome P-450<sub>14DM</sub>  
(Lanosterol 14 $\alpha$ -demethylase)**

Yuri AOYAMA\*, Yuzo YOSHIDA,\* Yoshiko SONODA, and Yoshihiro SATO

青山由利\*, 吉田雄三\*, 園田よし子, 佐藤良博

Interaction of lanosterol, 3-epilanolsterol, 3-oxolanosta-8,24-diene, 3-methylenolanost-8-ene and lanosterol acetate with cytochrome P-450<sub>14DM</sub> were studied. The cytochrome mediated the 14 $\alpha$ -demethylation of 3-epilanolsterol with nearly the same activity as lanosterol but could not mediate the 14 $\alpha$ -demethylation of the 3-methylene derivative and the 3-acetate. The cytochrome catalyzed the 14 $\alpha$ -demethylation of the 3-oxo derivative with low rate. Based on these and some additional observations the hydrogen bond formation between the 3-hydroxy group of lanosterol and the specific amino acid residue in the substrate site is assumed to be essential for orienting the substrate in the substrate site of the cytochrome.

---

\* 本報告は *Biochim. Biophys. Acta*, **1006**, 209—213 (1989) に発表.

\*\* 武庫川女子大・薬学部