

Title	Effects of synthetic estrogens, ( + )-, ( - )-, dl- and meso-hexestrol stereoisomers on microtubule assembly
Sub Title	
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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.57- 57
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=AN00062898-00000035-0057">https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000035-0057</a>

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## Effects of Synthetic Estrogens, (+)-, (-)-, dl- and meso-Hexestrol Stereoisomers on Microtubule Assembly

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We previously reported on the inhibition of microtubule polymerization and the formation of ribbon structures by synthetic estrogens. The present investigation aimed to analyze these effects in vitro on stereochemical point of view, using hexestrol isomers ((+)-hexestrol, (-)-hexestrol and meso-hexestrol) and dl-hexestrol. Among hexestrols, dl-hexestrol showed the highest activity in ribbon formation from microtubule proteins at 100  $\mu$ M.

On the other hand, meso-hexestrol was distinguished from others by inhibition of microtubule assembly and formation of a large amount of aggregates from purified tubulin in the presence of  $MgCl_2$  and dimethyl sulfoxide. These results were discussed with physico-chemical properties of hexestrols, e.g. absolute configurations as well as circular dichroism spectra and solid state carbon-13 nuclear magnetic resonance spectra.

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\* 本報告は *Biochem. Pharmacol.*, 39, 167—172 (1990) に発表.

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