

# アロマターゼ阻害剤による子宮筋腫・子宮内膜症の治療に関する基礎的・臨床的研究

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# 2002 Fiscal Year Final Research Report Summary

## THERAPUETIC APPLICATION OF AROMATASE INHIBITOR FOR LEIOMYOMA OF THE UTERUS AND ENDOMETRIOSIS

Research Project

### Project/Area Number

12557136

### Research Category

Grant-in-Aid for Scientific Research (B)

### Allocation Type

Single-year Grants

### Section

展開研究

### Research Field

Obstetrics and gynecology

### Research Institution

KANAAWA UNIVERSITY

### Principal Investigator

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### Project Period (FY)

2000 – 2002

### Keywords

Aromatase / Endometriosis / Leiomyoma of the uterus / Aromatase inhibitor / Estrogen / GnRH agonist / Clinical trial

### Research Abstract

1. Leiomyoma of the uterus expresses estrogen synthetase (aromatase) and synthesizes estrogen in situ. Preoperative GnRH agonist therapy abolishes aromatase expression in leiomyoma tissues in situ in addition to aromatase expression in the ovary. This combined suppression may explain why GnRH agonists induced shrinkage of leiomyoma more rapidly and more profoundly than natural menopause.

2. Addition of androstenedione stimulates cell proliferation of leiomyoma cells in culture. This growth stimulatory action was completely canceled by the pretreatment with an aromatase inhibitor (fadrozole).
3. Oral administration of fadrozole (1mg/kg/day,>1 weeks) induced anovulatory state in rats. Estrus cycles were recovered within 1 week after the discontinuation of fadrozole.
4. Oral fadrozole (2mg/day) induced rapid and profound regression of leiomyoma and resolved bulk-related symptoms of a perimenopausal woman. The potential uses of aromatase inhibitors was demonstrated.
5. AF-1/AD4BP binds to a nuclear half site of the most proximal promoter of aromatase (PII) and up-regulates the transcription of aromatase in endometriosis cells. Cis elements of PII promoter of aromatase, therefore its regulation, were quite different between endometriosis and the ovary, suggesting that tissues-specific and promoter-specific modulation of aromatase expression is possible.

## Research Products (24 results)

All	2004	2003	2002	2001	2000
			All	Journal Article	

[Journal Article] In situ expression of aromatase in leiomyoma of the uterus.	2004	▼
[Journal Article] In Situ Expression of Aromatase in Leiomyoma of the Uterus.	2004	▼
[Journal Article] Prepubertal gynecomastia due to estrogen excess associated with novel gain-of-function mutations affecting the aromatase gene.	2003	▼
[Journal Article] Successful treatment of a symptomatic uterine leiomyoma in a perimenopausal woman with a nonsteroidal aromatase inhibitor.	2003	▼
[Journal Article] Temporary amniotic membrane patching for acute chemical burns.	2003	▼
[Journal Article] Estrogen excess associated with novel gain-of-function mutations affecting the aromatase gene.	2003	▼
[Journal Article] Successful Treatment of Symptomatic Uterine Leiomyoma with a Non-Steroidal Aromatase Inhibitor in a Perimenopausal Woman	2003	▼
[Journal Article] Temporary amniotic membrane patching for acute chemical burns.	2003	▼
[Journal Article] Cloning and Characterization of a Novel Endothelial Promoter of the Human CYP19(Aromatase P450) Gene that Is Up-Regulated in Breast Cancer Tissue.	2002	▼
[Journal Article] Over-expression of aromatase P-450 in leiomyoma tissues is driven through the promoter 1.4 of aromatase P-450.	2002	▼
[Journal Article] Spatially Heterogenous Expression of Aromatase P450 through Promoter II Is Closely Correlated with the Level of Steroidogenic Factor-1 Transcript in Endometrioma Tissues.	2002	▼
[Journal Article] Cloning and Characterization of a Novel Endothelial Promoter of the Human CYP19 (Aromatase P450) Gene that Is Up-Regulated in Breast Cancer Tissue.	2002	▼
[Journal Article] Leak-proof puncture of ovarian cysts : instant mounting of plastic bag using cyanoacrylate adhesive.	2002	▼
[Journal Article] Over-expression of aromatase P450 in leiomyoma tissues is driven through the promoter 1.4 of aromatase P-450.	2002	▼
[Journal Article] Spatially heterogeneous expression of aromatase P450 through promoter II is closely correlated with the level of steroidogenic factor-1 transcript in endometrioma tissues.	2002	▼
[Journal Article] Cloning and Characterization of a Novel Endothelial Promoter of the Human CYP19 (Aromatase P450) Gene that Is Up-Regulated in Breast Cancer Tissue.	2002	▼
[Journal Article] Regulation of aromatase activity in bone-derived cells : possible role of mitogen-activated protein kinase.	2001	▼
[Journal Article] Inhibition of in situ expression of aromatase P450 in leiomyoma of the uterus by leuprorelin acetate.	2001	▼
[Journal Article] Leak-proof puncture of ovarian cysts : instant mounting of plastic bag using cyanoacrylate adhesive.	2001	▼
[Journal Article] Regulation of aromatase activity in bone-derived cells : possible	2001	▼
[Journal Article] Inhibition of in situ expression of aromatase P450 in leiomyoma of the uterus by leuprorelin acetate.	2001	▼

[Journal Article] In situ estrogen synthesized by aromatase P450 in uterine leiomyoma cells promotes cell growth probably via an autocrine/intracrine mechanism. 2000 ▾

[Journal Article] TGF- $\beta$ 1 stimulates expression of aromatase (CYP19) gene in human osteoblast-like cells and THP-1 cells. 2000 ▾

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