The Endocrine Society

1985 ABSTRACT FORM

PROC ENDOCR SOC
1985; 67: 324

IMPORTANT:

Read all instructions before you type abstract. Also see sample abstracts and typing instructions on reverse side.

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From Abroad-January 15, 1985
North America-January 22, 1985

MAIL TO:

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9650 Rockville Pike
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PRESENTATION PREFERENCE

Preferred choice
☐ Poster or ☒ Slide

Do you wish to have your abstract considered for a Minisymposium?
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Indicate below the numbers and titles of sessions in which your abstract might be programmed (see Topic Category List):

1st Choice: # ...3... Title Receptors-female

2nd Choice: # ..31.. Title Intracellular

This abstract is suitable for presentation at a Clinical Endocrinology session.

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Your entire abstract, including a concise, descriptive le, author(s), sponsor if any, location where work was one, text and acknowledgments, must be within the tangle outlined at the right. See reverse side for sam- abstracts and full instructions.

Each Abstract Form submitted MUST BE GNED below by a member of THE ENDOCRINE OCIETY.

MAMMARY GLAND HORMONE RECEPTORS IN IODINE DEFICIENCY.

B.A. Eskin, M.A. Mitchell*, P.R. Modhera*. Breast Research Laboratory, Medical College of PA, Philadelphia, PA 19129.

Iodine deficiency (ID) in rats causes specific histological and biochemical mammary gland changes. Histologically: atypia, hyperplasia, hypersecretion and fibrosis occur. Biochemically: evidence of increased iodine uptakes, decreased iodinated protein in duct and acinar cells, and quantitative differences in the form of estradiol receptor (4-5S 8-9S) have been reported. These effects of ID are intensified when endogenous estrogen is given.

In order to determine whether ID affects hormone receptor binding capacity, virgin female rats made iodine deficient were given 50 ug estradiol (E), 16 ug iodine/day (I) or both E+I. An ID diet was used for 4 weeks. When indicated, E was given during the last 5 days only. Mammary gland estrogen receptor (ER) and progestin receptor (PR) capacities were measured by the dextran-charcoal technique on tissues obtained at necropsy. The reproductive/metabolic endocrine conditions were monitored. The averaged receptor binding capacities follow:

		ESTROGEN RECEPTOR		PROGESTIN RECEPTOR	
		(a) fmol/mg mcp	Kd($\times 10^{-10}$)	fmol/mg mcp	Kd($\times 10^{-9}$)
(b) Virgin	Rats (5)*	3	0.09	12	0.20
ID+E	(4)	(c) 0	----	125	2.31
ID+I	(5)	6	2.67	46	1.08
ID+E+I	(4)	10	2.89	73	1.54

(a) mcp=mg cytosol protein (c) not detectable
(b) control values * (number of rats)

When compared with control studies, these data differ from the values anticipated in nonpregnant, pregnant and lactating rats. ER values are low, while PR shows high binding capacities. Previous work has shown that iodination in the breast is dependent on hormonal stimulation. This preliminary data indicates that hormonal binding capacity may be dependent on available iodine.

Member Signature Required Below as Sponsor of Abstract: NO MEMBER MAY SIGN MORE THAN ONE ABSTRACT.

The signing member certifies that any work with human or animal subjects related in this abstract complies with the guiding principles for experimental procedures as set forth in the Declaration of Helsinki, in the American Physiological Society's "Guiding Principles in the Care and Use of Animals" and in the *NIH Guide for Grants and Contracts*, Appendix 1, Vol. 7, No. 17 (November 1978). The signature also certifies that the scientific material in this abstract will **not have been published or presented** at any national meeting prior to The Endocrine Society Annual Meeting. Failure to adhere to this rule will result in deletion of the paper from the Program.

Member signature	Bernard A. Eskin *Printed or typed name*	(215) 842-7197 *Telephone number*