



## CHAPTER VI

### REFERENCES

- Abraham, G.E., R. Swerdloft, D. Tulchinsky and W.D. Odell,  
"Radioimmunoassay of Plasma Progesterone,"  
J. Clin. Endocrinol., 32, 619-624, 1971.
- Abraham, G.E., W.D. Odell, R.S. Swerdloff, K. Hopper,  
"Simultaneous RIA of Plasma FSH, LH, Progesterone,  
17-Hydroxyprogesterone and Estradiol-17 B during  
the Menstrual Cycle," J. Clin. Endocrinol.,  
34, 312-318, 1972.
- Amenomori, Y. and J. Meites, "Effect of a Hypothalamic  
Extract on Serum Prolactin Levels during the  
Estrus Cycle and Lactation," Proc. Soc. Exp.  
Biol. Med., 134, 492-495, 1970.
- Ando, M., H. Seo., Y. Murata, N. Matsui, O. Takenaka.  
"Thyroxine Binding Protein in Primate Species;  
Platyrrhini and Prosimiae," Env. Med., 30,  
69-75, 1986.
- Aranow, H. Jr., E.T. Engle and W.M. Sperry, "Some Effects  
of the Administration of Thiouracil to Monkeys,"  
Endocrinology., 38(6), 331-336, 1946.
- Archer, D.F., H.R. Nemkin and P.F. Gabos, "Serum Prolactin  
in Patients in Inappropriate Lactation," Am. J.  
Obstet. Gynec., 119, 466-472, 1974.
- Archer, D.F., "Hyperprolactinemia," Progress in Infertility  
(Behrman, S.J., R.W. Kistner, G.W. Jr. Patton, eds),

- pp. 463-476, Little Brown and Company, Toronto, 1988.
- Aso, T. and P.F. Williams, "Lactational Amenorrhea in Monkeys : Effects of Suckling on Prolactin Secretion," Endocrinology., 117, 1727-1734, 1985.
- Azukizawa, M., Y. Muruta, T. Ikenoue, C.B. Jr. Martin, J.M. Hershman, "Effect of Thyrotropin-Releasing Hormone on Secretion of Thyrotropin, PRL, Thyroxine and Tri-iodothyronine in Pregnant and Fetal Rhesus Monkeys," J. Clin. Endocrinol Metab., 43, 1020-1028, 1976.
- Bachrach, L.K., D. Dibattista, G.N. Burrow and F.J. Holland, "Transplaccental Effects of 3, 5-Dimethyl-3 -Isopropyl-L-Thyronine on Fetal Hypothyroidism in Primate," Endocrinology 112, 2021-2024, 1983.
- Balazs, R., B.W.L. Brooksbank, A.N. Davison, J.T. Eayrs, and D.A. Wilson, "The Effects of Neonatal Thyroidectomy on Myelination in the Rat Brain," Brain Res., 15, 219-232, 1969.
- Balsam, A., C.R. Dobbs, L.E. Leppo, "Circadian Variations in Concentrations of Plasma Thyroxine and Tri-iodothyronine in Man," J. Appl. Physiol., 39, 297-299, 1975.
- Barbosa, J., U.S. Scal, and R.P. Doe, "Anti-Estrogens and Plasma Protein II. Contraceptive Drugs and Gestagens," J. Clin. Endocrinol. Metab., 36, 706-714, 1973.
- Bayer, M.F., I.R. McDougall, "RIA of Free Thyroxine in

Serum : Comparison with Clinial Findings and Results of Conventional Thyroid-Function Test," Clin Chem., 26, 1186-1192, 1980.

Bast, J.D. and G.S. Greenwald, "Serum Profiles of Follicle-Stimulating Hormone, Luteinizing Hormone and Prolactin during the Estrous Cycle of the Hamster," Endocrinology, 94, 1295-1299, 1974.

Baxter Travenol Diagnostics, "TBG Protocol and Validation," Cambridge, USA., 1987.

Baxter Travenol Diagnostics, "Free Thyroxine Protocol and Validation," Cambridge, USA., 1987.

Baxter Travenol Diagnostics, " TSH Protocol and Validation," Cambridge, USA., 1987.

Beck, R.P., D.M. Fawcett, F. Morcos, "Thyroid Function Studies in Different Phases of the Menstrual Cycle and in Women Receiving Norethindrone with and without Estrogen," Am. J. Obstet. Gynecol., 112, 369-373, 1972.

Beierwaltes, W.H. and J. Robbin, "Familial Increase in the Thyroxine-Binding Sites in Serum Globulin," J. Clin. Invest., 38, 1683-1688, 1959.

Belchetz, P.E., G. Gredley, R.L. Himsworth, "Pituitary-Thyroid Function in the Rhesus Monkeys (*Macaca mulatta*)," J. Endocrinol., 76, 427-438, 1978(a).

Belchetz, P.E., G. Gredley, D. Bird and R.L. Himsworth, "Regulation of Thyrotropin Secretion by Negative

- Feedback of Triiodothyronine on the Hypothalamus,"  
J. Endocrinol., 76, 439-448, 1978(b).
- Belfe, A., "Parallelism of Dilution Curves in  
Radioimmunoassay," Clin Chem, 33(12), 2320-2321,  
1987.
- Ben-Jonathan, N., "Catecholamines and Pituitary Prolactin  
Release," J. Reprod. Fert., 58, 501-512, 1980.
- Bennink, H.J., "Intermittent Bromocriptine Treatment for  
the Induction of Ovulation in Hyperprolactinemia",  
Fert. Steril., 31, 267-272, 1979.
- Bernal, J., and F. Peknen, "Ontogenesis of the Nuclear  
3, 5, 3 -Triiodothyronine Receptor in the Human  
Fetal Brain," Endocrinology, 114, 677-679, 1984.
- Besser, G.M. and C.R.W. Edwards, "Galactorrhea," Brit  
Med J., 1, 280-282, 1972.
- Besses, G.S., G.N. Burrow, S.W. Spaulding and R.K.  
Donabedian, "Dopamine Infusion Acutely Inhibits  
the Thyrotropin and Prolactin response to  
Thyrotropin-Releasing Hormone," J. Clin.  
Endocrinol. Metab., 41, 985-987, 1975.
- Bhattacharya, S., K. Kaul, S. Guin, S.R. Datta, "Biological  
Relevance of Thyroid Hormone Receptor in the Ovary,"  
AOSCE Proceedings of an International Symposium,  
(Chan, D.K.O. ed.), pp. 130-131, Hongkong, 1989.
- Blake, C.A., "Stimulation of Pituitary Prolactin and  
Thyroid-Stimulating Hormone Release in Lactating  
and Proestrus Rats," Endocrinology, 94, 503-561,  
1974.

- Boroditsky, R.S. and C. Faiman, "Galactorrhea-Amenorrhea due to Primary Hypothyroidism," Am. J. Obstet. Gynec., 116, 661-665, 1973.
- Boss, A.M.B., D. Kingstone, "Serum Free Thyroxine in Pregnancy," Brit Med. J., 2, 550, 1979.
- Boss, A.M.B., and D. Kingston, "Further Observations on Serum Free Thyroxine Concentrations during Pregnancy," Brit Med J., 283, 584, 1981.
- Boyd, A.E. and S. Reichlin, "Galactorrhea-Amenorrhea, Brom-ergocryptine and the Dopamine Receptor," New Eng. J. Med., 293(9), 451-452, 1975.
- Bowers, C.Y., H.G. Friesen, P. Hwang, H.J. Guyda, "Prolactin and Thyrotropin Release in Man by Synthetic Pyroglutamyl Histidyl Prolineamide," Biochem Biophys Res Comm., 45, 1033-1036, 1971.
- Breckwoltd, M., G.L. Flickinger, T. Murawee and J.C. Touchstone, "Urinary Estrogens and Estrogen Metabolism of the Rhesus Monkey," Endocrinology 91, 1-5, 1972.
- Burrow, G.N., P.B. May, S.W. Spaulding, R.K. Donabedian, "Thyrotropin-Releasing Hormone and Dopamine Interactions Affecting Pituitary Hormone Secretion," J. Clin. Endocrinol Metab., 45, 65-71, 1977.
- Burrow, G.N., "Thyroid Function in Relation to Age and Pregnancy," The Thyroid Gland (De Visseher, M. ed), pp. 215-229, Raven Press, NY, 1980.
- Carayon, P., G. Lefort and B. Nisula, "Introduction of

Human Chorionic Gonadotropin and Human Luteinizing Hormone with Human Thyroid Membranes," Endocrinology, 106, 1907-1916, 1980.

Caro, J.F., P.D. Woolf, "Pituitary-Ovarian Axis Responsivity to Prolonged Gonadotropin-Releasing Hormone Infusion in Normal and Hyperprolactinemic Womens," J. Clin. Endocrinol Metab., 50, 999-1004, 1980.

Carruthers, T.D., H.D. Hafs, "Suckling and Four times Daily Milking : Influence an Ovulation, Estrus and Serum Luteinizing Hormone, Glucocorticoids and Prolactin in Postpartum Holsteins," J. Anim. Sci., 50, 919-925, 1980.

Casey, M.L., P.C. Macdonald, E.R. Simpson, "Endocrinological Changes of Pregnancy," Williams Textbooks of Endocrinology (Wilson, J.D. and D.W. Foster, eds.) pp. 422-427, W.B. Saunders Company, Philadelphia, 1985.

Chan, S.W., and V. Aucock, "Development of A Double Antibody (DA) Method for Determination of Serum Thyroxine Binding Globulin (TBG) Concentration," Clin. Chem, 26, 961, 1980.

Chang, R.J., "Hyperprolactinemia and Menstual Dysfunction," Clin. Obstet Gynec., 26(3), 736-748, 1983.

Chaiseha, Y., "Induction of Hypothyroidism and the Interrelationships between Thyroxine and Fertility in Female Cynomoligus Monkeys (*Macaca fascicularis*),"

- M.Sc. Thesis, Chulalongkorn University, 1988.
- Chaouki, M.L., R. Maoui and M. Benmiloud, "Comparative Study on Neurological and Myxedematous Cretinism Associated with Severe Iodine Deficiency," Clin. Endocrinol (Oxf), 28, 399-408, 1988.
- Chaudhury, S., and P.K. Sarkar, "Stimulation of Tubulin Synthesis by Thyroid Hormone in the Developing Rat Brain," Biochim. Biophys. Acta., 763, 93-98, 1983.
- Chen, H.J. and P.G. Walfish, "Effects of Age and Ovarian Function on the Pituitary-Thyroid System in Female Rats," J. Endocrinol., 78, 225-232, 1978.
- Chopra, I.J., "A Radioimmunoassay for Measurement to thyroxine in Unextracted Serum," J. Clin. Endocrinol. Metab., 34, 938-947, 1972.
- Chopra, I.J., D.H. Solomon, R.S. Ho, "Competitive Ligand-Binding Assay for Measurement of TBG," J. Clin. Endocrinol. Metab., 35, 565-573, 1972 a.
- Chopra, I.J. R.S. Ho and R. Lam, "An Improved Radioimmunoassay of Triiodothyronine in Serum: Its Application to Clinical and Physiological Studies," J. Lab. Clin. Med., 80(5), 729-739, 1972 b.
- Chopra, I.J., J.M. Hershman, and R.W. Hornabrook, "Serum Thyroid Hormone and Thyrotropin Levels in Subjects from Endemic Goiter Regions of New Guinea," J. Clin. Endocrinol., 40, 326-333,

1975.

- Chopra, I.J., "Nature, Sources, and Relative Biologic Significance of Thyroid Circulating Hormones," Werner's the Thyroid (Ingbar S.H. and L.E. Braverman eds.), pp. 136-153, J.B. Lippincott Company, London, 1986.
- Christensen, L.K., L. Skovsted., J.M. Hansen, "Protein-bound Iodine during Antithyroid Treatment," Acta. Med. Scand., 185, 483-487, 1969.
- Christopoulos, C., "Primary Hypothyroidism presenting as Amenorrhea and Galactorrhea with Hyperprolactinemia and Pituitary Enlargement," Brit. Med. J., 293, 624-625, 1986.
- Clugston, G.A., E.M. Dulberg, C.S. Pandav and R.L. Tilden, "Iodine Deficiency Disorders in South East Asia," The Prevention and Control of Iodine Deficiency Disorders (Hetzl, B.S., J.T. Dunn, J.B. Stanbury, eds.), pp. 273-308, Elsevier, Amsterdam, 1987.
- Cooper, D.S., "Antithyroid Drug," New. Eng. J. Med. 311(21), 1353-1362, 1984.
- Cooper, D.S., H.H. Bode, B. Nath, V. Saxe, F. Maloof, E.C. Ridgway, "Methimazole Pharmacology in Man : Studies Using a Newly Developed RIA for Methimazole," J. Clin. Endocrinol. Metab., 58(3), 473-479, 1984.
- Cumming I.A., J.M. Brown, J.R. Goding, G.D. Bryant, F.C.



Greenwood, "Secretion of Prolactin and Luteinizing Hormone at Oestrus in the Ewe," J. Endocrinol., 54, 207-213, 1972.

De Nayer, P., "Assay of Thyroxine-Binding Globulin (TBG) and Free Thyroid Hormones," Thyroid Diseases (eds.) pp. 23-47, 1982.

del Pozo E., M. Golstein, J. Friesen, del Re R. Brun, U. Eppenberger, "Lack of Action of Prolactin Suppression on the Regulation of the Human Menstrual Cycle," Am. J. Obstet. Gynec., 123, 719-723, 1975.

Delong, G.R., J.B. Stanbury, R. Fierro-Benitez, "Neurological Signs in Congenital Iodine Deficiency Disorder (Endemic Cretinism)," Dev. Med. Child Neurol., 27, 317-324.1985.

Delong, G.R., "Neurological Involvement in Iodine Deficiency Disorders," The Prevention and Control of Iodine Deficiency Disorders (Hetzl, B.S., J.T. Dunn, and J.B. Stanbury, eds.), pp. 49-63, Elsevier Science Publishers, B.V. (Biomedical Division), Amsterdam, 1987.

Delvoye, P., S.H. Hasen, M.L. Hermite, F. Neumann, C. Robyn., "Relationships between Serum Levels of Prolactin, Estrogens, LH, FSH and Progesterone during Menstrual Cycle and Treatment with Steroids," Acta. Endocrinol., (Copenh) Suppl 177, Abstract no. 132, 133, 1973.

Diagnostic Products Corporation, "PRL Protocol and

- Validation," CA, 1988.
- Diagnostic Products Corporation, "T3 Protocol and Validation," CA, 1988.
- Diagnostic Products Corporation, "T4 Protocol and Validation," CA, 1988.
- Distiller, L.A., J. Sagel, J.E. Morley, "Assesement of Pituitary Gonadotrophin Reserve Using Luteinizing Hormone-Releasing Hormone (LRH) in States of Altered Thyroid Function," J. Clin. Endocrinol. Metab., 40, 512-515, 1975.
- Doe, R.P., G.T. Mellinger, W.R. Swaim, K.S. Seal, "Estrogen Dosage Effects on Serum Proteins : A Longitudinal Study," J. Clin. Endocrinol., 27, 1081-1086, 1967.
- Dorrington, J., R.E. Gore-Langton, "Prolactin Inhibits Estrogen Synthesis in the Ovary," Nature., 290, 600-602, 1981.
- Dowling, J.T., N. Freinkel and S.H. Ingbar, "The Effect of Estrogens upon the Peripheral Metabolism of Thyroxine," J. Clin. Invest., 39, 1119-1130, 1960a.
- Dowling, J.T., J.B. Richards, N. Freinkel, "Non puerperal Galactorrhea," Arch. Intern. Med., 107, 885-893, 1961b.
- Dowling J.T., D.L. Hutchinson, W.R. Hindle and C.R. Kleeman, "The Effects of Pregnancy on Iodine Metabolism in the Primate," J. Clin. Endocrinol Metab., 21, 779-791, 1961.

- Dubois, J.D., A. Cloutier, P. Walker and J.L. Dussault,  
"Absence of Placental Transfer of L-Triiodo-  
thyronine (T3) in the Rat," Ped. Res., 11,  
116-119, 1977.
- Duchen, M.R. and A.S. McNeilly, "Hyperprolactinemia and  
Long-term Lactational Amenorrhea," Clin. Endocr.  
12, 621-627, 1980.
- Dukelow, W.R., J. Grauwiler and S. Bruggemann,  
"Characteristics of the Menstrual Cycle in  
Nonhuman Primates I. Similarities and  
Dissimilarities between *Macaca fascicularis* and  
*Macaca arctoides*." J. Med. Primatol., 8,  
39-47, 1979.
- Dussault, J.H., C.J. Hobel., J.J. Di Stefans., A.  
Evanberg., D.A. Fisher, "Triiodothyronine Turnover  
in Maternal and Fetal Sheep," Endocrinology.,  
90, 1301-1308, 1972.
- Dussault, J.H., P. Coulombe, "Minimal Placental Transfer  
of L-Thyroxine (T4) in the Rat," Ped. Res., 14,  
228-231, 1980.
- Dussault, J.H and J. Ruel, "thyroid hormones and Brain  
Development," Ann. Rev. Physiol., 49, 321-334, 1987.
- Edwards, C.R.W., J.A. Forsyth and G.M. Besser,  
"Amenorrhea, Galactorrhea and Primary  
Hypothyroidism with High Circulating Levels of  
Prolactin," Brit. Med. J., 3, 462-464, 1971.
- Edwards, P.R., "The WHO Immunoassay Program," IAEA  
Teacher Training Course in Radioimmunoassay Data

Processing, Jakarta, 1987.

- Ehara, Y., T. Silver, G. Vanden Berg, Y.N. Sinha, S.S.C. Yen, "Circulating Prolactin Levels during the Menstrual Cycle L Episodic Release and Diurnal Variation," Am. J. Obstet. Gynec., 117(7), 962-970, 1973.
- Ellis, S.M., and R.P. Ekins, "The Radioimmunoassay of Serum Free Triiodothyronine and Thyroxine," Radioimmunoassay in Clinical Biochemistry (Pasternak, C.A. ed), pp. 187-194, Heyden, London, 1975.
- Ekins, R.P., "Method for the Measurement of Free Thyroid Hormone," International Symposium on Free Thyroid Hormones (Ekins, R.P., G. Faglia, F. Pennill, F. Pinchera, eds.), PP. 72-92, Excerpta Med. Amsterdam, Oxford, Princeton, 1978.
- Ekins, R.P., "Commercial RIA for Free Thyroxine," Lancet, 1, 1190-1191, 1979.
- Ekins, R.P., S. Filetti, A.B. Kurtz, K. Dwyer, "A Simple General Method for the Assay of Free Hormones (and Drugs), Its Application to the Measurement of Serum Free Thyroxine Levels and the Bearing of Assay Results on the Free Thyroxine Concept," J. Endocrinol., 85, 29-30, 1980.
- Ekins, R.P., "Free Hormones and Drugs : Their Physiological Significance and Direct Measurement by Radioimmunoassays," Physiological Peptide and

- New Trends in Radioimmunity (Bizollon, Ch. A. ed.) pp. 191-214, Elsevier/North-Holland Biomedical Press, Amsterdam, 1981.
- Ekins, R.P., "The Physiological Significance and Measurement of Free Hormones in Blood," Radioimmunoassay and Related Procedures in Medicine, pp. 191-219, IAEA, Vienna, 1982.
- Ekins, R.P., P. Edwards, B. Newman, "The Role of Binding Proteins in Hormone Delivery," Free Hormone in Blood (Albertini, A. and R. Ekins, eds), pp. 3-43, Elsevier Biomedical Press, Amsterdam, 1982.
- Ekins, R.P., "Labelled Analogue free Thyroxine Assays : the Unanswered Question," Lancet, 2, 1196, 1983.
- Ekins, R.P., T.M. Jackson, P.R. Edwards, C. Salter, I. Ogier, "Euthyroid Sick Syndrome and Free Thyroxine Assay," Lancet, 2, 402-403, 1983.
- Ekins, R.P., "Free Hormones in Blood : the Concept and the Measurement," J. Clin. Immunoassays, 7, 163-180, 1984a.
- Ekins, R.P., "Transport of Thyroid Hormones," Clin. Sci., 67, 143-144, 1984b.
- Ekins, R.P., P. Edwards, T. Jackson, D. Geiseler, "Interpretation of Labelled-Analog Free Hormone Assay," Clin. Chem., 30(3), 491-493, 1984.
- Ekins, R.P., " Hypothesis: the Roles of Serum Thyroxine binding proteins and Maternal Thyroid Hormones in

- Foetal development," Lancet., 1,1129-1131,1985.
- Ekins, R.P., T.M. Jackson, P. Edwards, "More on the Amerlex Kit Analog Method for Thyroxine (Letter)," Clin. Chem., 32, 1243-1246, 1986.
- Ekins, R.P., "Validity of Analog Free Thyroxine Immunoassays," Clin. Chem., 33, 2137-2152, 1987.
- Ekins, R.P., P.R. Edwards., "Plasma Protein-Mediated Transport of Steroid and Thyroid Hormones : A Critique," Am. J. Physiol., 255, E403-E405, 1988.
- Ekins R.P., "Direct Determination of Free Thyroxine in Undiluted Serum by Equilibrium Dialysis/Radio Immunoassay (Letter to the Editor)," Clin. Chem., 35, 708, 1989a.
- Ekins, R.P., "Effect of Thyroid Hormone-Binding Proteins and Fatty Acids on Modified Analog Assays of Free T4 and Free T3 Serum (Letter)," Clin. Chem., 35, 708-720, 1989b.
- Ekins, R.P., A. Sinha, M. Ballobio, M. Pickard, M. Hubank, Z. al Mazidi, and M. Khaled, "Role of the Maternal Carrier Proteins in the Supply of Thyroid Hormones to the Feto-Placental Unit : Evidence of a Feto-Placental Requirement for Thyroxine," Research in Congenital Hypothyroidism (Delange, F., D.A. Fisher and D. Glincoer, eds.) pp. 45-60, Plenum Publishing Corporation, 1989.
- Ekins, R.P., "Measurement of Free Hormones in Blood,"

- Endocrinol Rev., 11(1), 5-46, 1990.
- Engle, E.T. and H. Jr. Aranow., "Hyperplasia of the Thyroid Gland of Rhesus Monkeys after Thiouracil Treatment," Endocrinol., 38(6), 325-330, 1946.
- Escobar Del Rey, F., R. Pastor, J. Mallol and G. Morreale De Escobar, "Effects of Maternal Iodine Deficiency on the L-Thyroxine and 3, 5, 3 - Triiodo-L-Thyronine Contents of Rat Embryonic Tissues before and after Onset of Fetal Thyroid Function," Endocrinology., 118, 1259-1265, 1986.
- Escobar Del Rey, F., J. Mallol, R. Pastor and G. Morreale De Escobar, "Effects of Maternal Iodine Deficiency on Thyroid Hormone Economy of Lactating Dams and Pups : Maintenance of Normal Cerebral 3, 5, 3 -Triiodo-L-Thyronine Concentrations in Pups during Major Phases of Brain Development," Endocrinology., 121, 803-811, 1987.
- Everitt, E.J. and T. Hokfelt, "Neuroendocrine Anatomy of the Hypothalamus," Neuroendocrinology (Lightman, S.L. and B.J. Everitt eds.), pp. 5-31, Blackwell Scientific Publications, Oxford, 1986.
- Feek, C.M., J.S.A. Sawers, N.S. Brown, J. Seth, W.J. Irvine and A.D. Toft, "Influence of Thyroid Status on Dopaminergic Inhibition of Thyrotropin and Prolactin Secretion : Evidence for an Additional Feedback Mechanism in the Control of Thyroid Hormone Secretion," J. Clin. Endocrinol Metab., 51, 585-589, 1980.

- Fell, L.R., J.K. Findley, J.A. Cumming, J.R. Goding,  
"Effect of Synthetic Thyrotropin-Releasing Hormone  
on Prolactin Release in the Sheep,"  
Endocrinology., 487-491, 1973.
- Fisher, D.A. and T.J. Oddie, "Thyroxine Secretion Rate  
during Infancy : Effect of Estrogen," J. Clin.  
Endocrinol. Metab., 23, 811-819, 1963
- Fish, L.H., and C.N. Mariash, "Hyperprolactinemia,  
Infertility, and Hypothyroidism. A Case Report  
and Literature Review," Arch Intern Med.,  
148(3), 709-711, 1988.
- Foord, S.M., J.R. Peters, C. Dieguez, M.D. Lewis, B.M.  
Lewis, R. Hall and M.F. Scanlon, "Thyroid  
Stimulating Hormone," Neuroendocrinology  
(Lightman S.L. and Everitt B.J. eds.), pp. 450-  
471, Blackwell Scientific Publications, London, 1986.
- Frantz, A.G., "Prolactin," Physiol. Med., 298(4), 201-  
207, 1978.
- Franchimont, P., C. Dourey, J.J. Legros, A. Reuter, Y.  
Vrindts-Gevert, V. Jr. Cauwenberge, U. Gaspard,  
"Prolactin Levels during the Menstrual Cycle,"  
Clin. Endocrinol., 5, 643-650, 1976.
- Freeman, M.E., F.T. Jr. Larochelle, R.B. Moore, "Thyroid  
Hormone Regulation of the Pulsatile Discharge of  
Luteinizing Hormone in Ovariectomized Rats",  
Endocrinology, 97, 738-743, 1975.
- Freeman, M.E.. F.T. Jr. Larochelle, R.B. Moore, "Effect



of Thyroid Status on Spontaneous and Induced Surges of Luteinizing Hormone," Endocrinology, 99, 713-719-1976.

Freinkel, N., "Metabolic Changes in Pregnancy," Williams Textbooks of Endocrinology (Wilson, J.D. and D.W. Foster, eds.) pp. 438-451, W.B. Saunders Company, Philadelphia, 1985.

Fukuda, H., M.A. Greer, L. Roberts, C.F. Allen, V., "Crichlow and M. Wilson," Nyctohemeral and Sex Related Variations in Plasma Thyrotropin, Thyroxine and Tri-iodothyronine," Endocrinology., 97, 1424-1431, 1975.

Fuxe, K., and T. Hokfeltd, "Catecholamines in the Hypothalamus and Pituitary Gland," Frontiers in Neuroendocrinolgy (W. Ganong, and L. Martin eds), pp. 49-96, Oxford University Press, Oxford, 1969.

Fuxe, K., T. Hokfelt, and G. Nilsson, "Castration, Sex Hormones and Tuberoinfundibular Dopamine Neurons," Neuroendocrinology, 5, 107-120, 1969.

Fuxe, K., T Hokfelt, A. Lofstrom, O. Johansson, L. Agnati, B.J. Everitt, M. Goldstein, S. Jeffcoate, N. White, P. Eneroth, J. Gustafsson, and P. Skett, "The Role of Neurotransmitters, Hypothalamiac Hormones and Their Interactions in Hypothalamic and Extrahypothalamic Control of Pituitary Function and Sexual Behaviour," Subcellular Mechanisms in Reproductive Neuroendocrinology

- (Naftolin. F., K.J. Ryan and T. Davies, eds.) pp. 193-246, Elsevier, Amsterdam, 1975.
- Gafni, M., N. Sirkis, J. Gross, "Inhibition of the Response of Mouse Thyroid to Thyrotropin Induced by Chronic Triiodothyronine Treatment," Endocrinology, 97, 1256-1262, 1975.
- Garris, D.R., and I. Rotchchild, "Temporal Aspects of the Involvement of the Uterus and Prolactin in the Establishment of Luteinizing Hormone-Dependent Progesterone Secretion in the rat," Endocrinology, 107, 1112-1116, 1980.
- Gautvik, K.M., B.D. Weintraub, C.T. Gracber, F. Maloof, J.E. Zuckerman. A.H. Jr. Tashjian, "Serum Prolactin and Thyroid-Stimulating Hormone : Effects of Nursing and Pyro Glu-His-Pro NH<sub>2</sub> Administration in Postpartum Women," J. Clin. Endocrinol. Metab., 36, 135-139, 1973.
- Gay, V.L., and N.A. Sheth, "Evidence for a Periodic Release of LH in Castrated Male and Female Rats," Endocrinology, 90, 158-162, 1972.
- Gershengorn, M.C., D. Glinoyer and J. Robbins, "Transport and Metabolism of Thyroid Hormones," The Thyroid Gland (De Visscher M., ed), pp. 81-121, Raven Press, NY, 1980.
- Gershengorn, M.C., "Thyrotropin-Releasing Hormone Action : Mechanism of Calcium-Mediated Stimulation of

- Prolactin Secretion," Rec. Prog. Horm. Res., 41, 607-653, 1985.
- Gibbons, J.M., M. Mitnick, V. Chieffo, "In Vitro Biosynthesis of TSH-and LH-Releasing Factors by Human Placenta," Am. J. Obstet Gynecol., 121, 127-131, 1975.
- Gibori, G. and J.S. Richards, "Dissociation of Two Distinct Luteotrophic Effects of Prolactin : Regulation of Luteinizing Hormone-Receptor Content and Progesterone Secretion during Pregnancy," Endocrinology., 102, 767-774, 1978.
- Glincoer, D., R.A. McGuire, M.C. Gershengorn, J. Robbins, M. Berman, "Effects of Estrogen on TBG Metabolism in Rhesus monkeys," Endocrinology, 100, 9-17, 1977a.
- Glincoer, D., M.C. Gershengorn, A. Dubois and J. Robbins, "Stimulation of TBG Synthesis by Isolated Rhesus Monkey Hepatocytes after *in Vivo* B-Estradiol Administration," Endocrinology, 100, 807-813, 1977b.
- Glincoer, D., R.A. McGuire, A. Dubois, J.P. Cogan, J. Robbins and M. Berman, "Thyroxine-Binding Globulin Metabolism in Rhesus Monkeys : Effects of Hyper-and Hypothyroidism," Endocrinology., 104, 175-183, 1979.
- Goldsmith, R.E., S.H. Sturgis, J. Lerman, J.B. Stanbury, "The Menstrual Pattern in Thyroid Disease,"

- J. Clin. Endocrinol. Metab., 12, 846-855, 1952.
- Goodman, A.L., C.D. Descalzi, D.K. Johnson, G.D. Hodgen,  
"Composite Pattern of Circulating Luteinizing  
Hormone, Follicle-Stimulating Homone, Estradiol  
and Progesterone during the Menstrual Cycle in  
Cynomolgus Monkeys," Proc. Soc. Exp. Biol. Med.,  
155, 479-481, 1977.
- Goodman, A.L. and G.D. Hodge, "The Ovarian Triad of the  
Primate Menstrual Cycle," Recent Prog. Horm.  
Res., 39, 1-73, 1983.
- Gordon, G.G., A.L. Southren, S. Tochimoto, J.J. Rand, J.  
Olivo, "Effects of Hyperthyroidism and  
Hypothyroidism On the Metabolism of Testosterone  
and Androstenedione in Man," J. Clin. Endocrinol.,  
29, 164-170, 1969.
- Green, W.L., "Antithyroid Compounds," Werner's The Thyroid  
(Ingbar S.H. and L.E. Braverman eds.), pp. 339-  
350, J.B. Lippincott Company, London, 1986.
- Greenman, G.W., M.O. Gabrielson, J. Howard-Flanders and  
M.A. Wessel, "Thyroid Dysfunction in Pregnancy-  
Fetal Loss and Follow-up Evaluation of Surviving  
Infants," New Eng J. Med., 267, 426- 431, 1962.
- Greenstein, B.D., "Steriod Hormone Receptors in the  
Brain," Neuroendocrinology (Lightman, S.L. and  
B.J. Everitt, eds), pp. 32-48, Blackwell  
Scientific Publications, Oxford, 1986.
- Greenwood F.C. and W.M. Hunter, "The Preparation of  $^{131}\text{I}$ -

- Labelled Human Growth Hormone of High Specific Radioactivity," Biochem J., 89, 114-123, 1963.
- Greer, M.A., W.C. Meihoff, H. Studer, "Treatment of Hyperthyroidism with a Single Daily Dose of Propylthiouracil," New Eng. J. Med., 272(17), 888-891, 1965.
- Gregerman, R.I., "Intrinsic Physiologic Variables," Werner's the Thyroid (Ingbar S.H. and L.E. Braverman eds), pp. 361-380, Lippincott Company, London, 1986.
- Gross, H.A., M.D. Appleman, J.T. Nicoloff, "Effect of Biologically Active Studies on Thyroid Function in Man," J. Clin. Endocrinol. Metab., 33, 242-248, 1975.
- Grumbach, M., S.C. Werner, "Transfer of Thyroid Hormones Across the Human Placenta at Term," J. Clin. Endocrinol Metab., 16, 1392-1395, 1956.
- Guerrero, R., T. Aso, P.E. Brenner, Z Cekan, B.M. Landgren, K. Hagenfeldt and E. Diczfalusy, "Studies on the Pattern of Circulating Steroids in the Normal Menstrual Cycle," Acta Endocrinol (Copenh), 81, 133-149, 1976.
- Hallengren, B., O.R. Nilsson, B.E. Karlberg, A. Melander, L. Tegler, E. Wahlin-Boll, "Influence of Hyperthyroidism on the Kinetics of MMI, Propranolol, Metoprolol and Atenolol," Eur J. Clin. Pharmacol. 21, 379-384, 1982.
- Hanbrec, W.C., and R.L. Vande Wiele, "Female Reproductive

- System," Werner's the Thyroid (Ingbar, S.H. and L.E. Braverman eds), pp. 757-766, Lippincott Company, London, 1986
- Harris, A.R.C., D. Christianson, M.S. Smith, S.L. Fang, L.E. Braverman, A.G. Vagenakis, "The Physiological Role of Thyroid-Stimulating Releasing Hormone in the Regulation of Thyroid-Stimulating Hormone and Prolactin Secretion in the Rat," J. Clin. Invest., 61, 441-447, 1978.
- Harris, A.R., S.L. Fang, J. Prosky, L.E. Braverman, A.G. Vagenakis, "Decreased Outer Ring Monodeiodination of Thyroxine and Reverse Triiodo Thyronine in the Foetal and Neonatal Rat," Endocrinology, 103, 2216-2222, 1978.
- Hartley, H., R. Rodger, R.J. Nicolosi, T. Hartley, "Blood Pressure Values in *Macaca fascicularis*," J. Med. Primatol, 13, 183-189, 1984.
- Hashimoto, T. and F. Matsubara, "A Comment on the Albumin Effect in Analog Free Thyroxine Determinations," Clin. Chem., 33, 1291-1293, 1987.
- Hawe, P. and H.H. Francis, "Pregnancy and Thyrotoxicosis," Brit. Med. J., 2, 817-822, 1962.
- Haynes, R.C. and F. Murad, "Thyroid and Antithyroid Drugs," Goodman and Gilman's the Pharmacological Basis of Therapeutics (Gilman, A.G., L.S. Goodman, T.W. Rall and F. Murad eds.) pp. 1389-

- 1411, Macmillan Publishing Company, NY, 7 th ed., 1985.
- Hegedus, L., S. Karstrup, N. Rasmussen, "Evidence of Cyclic Alterations of Thyroid Size during the Menstrual Cycle in Healthy Women," Am J. Obstet Gynec., 155, 142-145, 1986.
- Herbert, V., K.S. Lau, C.W. Gottlieb, S.J. Bleicher, "Coated Charcoal Immunoassay of Insulin," J Clin. Endocrinol., 25, 1375-1385, 1965.
- Heritage, A.S., L.D. Grant, and W.E. Stumpf, "Estradiol in Catecholamine Neurons of the Rat Brainstem; Combined Localizations by Autoradiography and Formaldehyde-include Fluorescence," J. Comp. Neurol., 176, 607-630, 1975.
- Hetzel, B. S., "Iodine Deficiency Disorder (IDD) and Their Eradication," Lancet., 2, 1126-1129, 1983.
- Hetzel, B. S., and B.J. Potter, "Iodine Deficiency and the Role of Thyroid Hormones in Brain Development," Neurobiology of the Trace Elements (Dreosti, I.E. and R.M.Smith, eds.) pp.83-133, Human press, Clifton, N.J., 1983.
- Hetzel, B.S., "An Overview of the Prevention and Control of Iodine Deficiency Disorders", The Prevention and Control of Iodine Deficiency Disorders, (Hetzel, B.S., J.T. Dunn, and J.B. Stanbury, eds), pp7-34, Elsevier, Amsterdam, 1987.
- Hetzel, B.S., and M.T. Mano, "A Review of Experimental Studies of Iodine Deficiency during Fetal

- Development," J. Nutr., 119, 145-151, 1989.
- Hobson, B.M., and L. Wide, "The Similarity of Chorionic Gonadotropin and Its Subunits in Term Placenta from Man, Apes, Old and New World Monkeys and a Prosimian," Folia Primatol., 35, 51-64, 1981.
- Hodges, R.E., H.E. Hamiton, W.C. Kettel, "Pregnancy in Myxedema," Arch. Intern. Med., 90, 863-868, 1952.
- Hodgen, G.D., M.L. Dufau, K.J. Catt, and W.W. Tullner, "Estrogens, Progesterone and Chorionic Gonadotropin in Pregnant Rhesus Monkeys," Endocrinology, 91, 896-900, 1972.
- Honbo, K.S., A.J. Van Herle, K.A. Kellett, "Serum Prolactin Levels in Untreated Primary Hypothyroidism," Am. J. Med., 64, 782-787, 1978.
- Hopkins, P.S., G.D. Thorburn, "Placental Permeability to Maternal Thyroxine in the Sheep," J. Endocrinol., 49, 549-550, 1971.
- Hubl, W., "Radioimmunoassay and Liquid Scintillation Counting of Tritium-Labelled Steroid Hormones," Interregional Training Course on Radioimmunoassay Techniques, pp. 194-205, Berlin, 1980.
- Hunter, W.M., "Preparation and Assessment of Radioactive Tracers," Br. Med. Bull., 30(1), 18-23, 1974.
- Inada, M. and K. Sterling, "Thyroxine Transport in Thyrotoxicosis and Hypothyroidism," J. Clin. Invest., 46(9), 1442-1449, 1967.
- Ingbar, S.H., N. Freinkel, "Regulation of the Peripheral



- Metabolism of the Thyroid Hormones," Recent Prog. Horm.Res., 16, 353-395, 1960.
- Ingbar, S.H., "The Thyroid Gland," Williams Textbooks of Endocrinology (Wilson, J.D. and D.W. Foster, eds.), pp. 682-810, W.B. Saunders Company, Philadelphia, 1985.
- Jackson, W.P.U., "Post-Thyroidectomy Hypothyroidism, Hypoparathyroidism, Exophthalmos and Galactorrhea with Normal Menstruation Metabolic Response to probenecid," J. Clin. Endocrinol. Metab., 16, 1245-1250, 1956.
- Jacobs, L.S., P.J. Snyder, J.F. Wilber, R.D. Utiger and W.H. Daughaday, "Increased Serum Prolactin after Administration of Synthetic Thyrotropin Releasing hormone (TRH) in Man," J. Clin. Endocrinol., 33, 996-998, 1971.
- Jansson, R., P.A. Dahlberg, H. Johansson, B. Lindstrom, "Intrathyroidal Concentrations of Methimazole in Patients with Graves' Disease," J. Clin. Endocrinol. Metab., 57, 129-132, 1983 a.
- Jansson, R., P.A. Dahlberg, B. Lindstrom, "Comparative Bioavailability of Carbimazole and Methimazole," Intern J. Clin. Pharm. Ther. Toxicol., 21(10), 505-510, 1983 b.
- Jansson, R., B. Lindstrom, P.A. Dahlberg, "Pharmacokinetic Properties and Bioavailability of Methimazole,"

Clin Pharmacokinetics., 10, 443-450, 1985.

Jewelewicz, R., I. Dyrenfurth, M. Warren, A.G. Frantz,  
R.L. Vande Wiele, "Effect of Thyrotropin-  
Releasing Hormone (TRH) upon the Menstrual Cycle  
in Women," J. Clin Endocrinol Metab., 39,  
387-390, 1974.

Johnson, T.N., and J. Meites, "Effects of Hypo and  
Hyperthyroidism in Rats and Mice on Ovarian  
Response to Equine Gonadotroplin," Proc Soc  
Exp Biol Med., 75, 155-157, 1950.

Johnson, M.H., and B.J. Everitt, "The Regulation of  
Gonadal Function," Essential Reproductive,  
pp. 98-106, Blackwell Scientific Publication,  
Oxford , 1980.

Johnson, M.H., and B.J. Everitt, "The Maintenance of  
Pregnancy," Essential Reproductive., pp. 268-  
292, Blackwell Scientific Publications, Oxford,  
1980.

Jones R.C. and J. Tracy., "Effects of Thyroidectomy on  
Ovarian Compensatory Hypertrophy in Rats"  
Experientia, 30(4), 432-433, 1974.

Jordan, D., B. Rousset, F. Perrin, M. Fournier, J. Orgiazzi,  
"Evidence for Circadian Variations in Serum  
Thyrotropin, 3, 5, 3', Tri-iodothyronine and  
Thyroxine in the Rat," Endocrinology., 107,  
1245-1248, 1980.

Judd, S.J., J.S. Rakoff, S.S.C. Yen, "Inhibition of

- Gonadotropin and Prolactin Release by Dopamine :  
Effect of Endogenous Estradiol Levels," J. Clin. Endocrinol. Metab., 47, 494-498, 1978.
- Kaack, B., L. Walker, K.R. Brizzee, R.H. Wolf,  
"Comparative Normal Levels of Serum Tri-  
iodothyronine and Thyroxine in Non-human  
Primates," Lab Anim Sci., 29(2), 191-194, 1979.
- Kamis, A.B., "Circadian Variation in Serum Thyroid Hormones  
in *Macaca fascicularis*," Primates., 23(4), 596-  
597, 1982.
- Kampmann, J.P., J.M. Hansen, "Clinical Pharmacokinetics  
of Antithyroid Drugs," Clin Pharmacokinetics.  
6, 401-428, 1981.
- Kannan, V., M.K. Sinha, P.K. Devi, G.K. Rastogi, "Plasma  
Thyrotropin and Its Response to Thyrotropin  
Releasing Hormone in Normal Pregnancy," Obs  
Gynecol., 42(4), 547-549, 1973.
- Kaptein, E.M., Kletzky, D.A., Spencer, C.A., J.T. Nicoloff,  
"Effects of Prolonged Dopamine Infusion on  
Anterior Pituitary Function in Normal Males,"  
J. Clin. Endocrinol. Metab., 51(3), 488-491,  
1980.
- Kebabian, J.W. and D.B. Calne, "Multiple Receptors for  
Dopamine," Nature., 277, 93-96, 1979.
- Kemmann, E., C.A. Gemzell, W.C. Beinert, C.B. Belling,  
and J.R. Jones, "Plasma Prolactin Changes during  
the Administration of Menopausal Gonadotropins in  
Non-Ovulatory Women," Am. J. Obstet. Gynecol.

- 129, 145-149, 1977.
- Kerber, W.T. and W.H. Reese, "Comparison of the Menstrual Cycle of Cynologus and Rhesus Monkeys," Fert & Steril., 20, 975-979, 1969.
- Kerr, G.R., I.B. Tyson, J.R. Allen, J.H. Wallace and G. Scheffler, "Deficiency of Thyroid Hormone and Development of the Fetal Rhesus Monkey I. Effect on Physical Growth, Skeletal Maturation and Biochemical Measures of Thyroid Function," Biol Neonate, 21, 282-295, 1972.
- Kieffer, K.A., W.B. Malarkey, "Size Heterogeneity of Human Prolactin in CSF and Serum : Experimental Conditions that After Gel Filtration Patterns," J. Clin Endocrinol Metab., 46, 119-124, 1978.
- Kikuoka, H., M. Kikuoka, Y. Yamamoto, H. Bessho, G. Matsumo, H. Honda, Y. Momotani, K. Nanjo, K. Iwo, Y. Higashi, K. Miyamura, "Effects of Dopamine Antagonists on Thyrotropin and Prolactin : Evidence for Dissimilar Modification," JAFES, 2(2), 49-51, 1982.
- Kinch, R.A., E.R. Plankett, M.C. Devlin, "Postpartum Amenorrhea Galactorohea of Hypothyroidism," Am. J. Okstet. Gynecol., 105(5), 766-773, 1969.
- Kleinberg, D.L., G.L. Noel and A.G. Frantz, "Galactorrhea : A Study of 235 cases, including 48 with Pituitary Tumors," New Eng. J. Med., 296(11), 589-600, 1977.

- Knobil, E., "The Neuroendocrine Control of the Menstrual Cycle," Recent Prog.Horm.Res., 36, 53-88, 1980.
- Knobil, E., T.M. Plant, L. Wildt, P.E. Belchetz and G. Marshall, "Control of the Rhesus Monkey Menstrual Cycle : Permissive Role of the Hypothalamic Gonadotropin-Releasing Hormone," Science, 207, 1371-1373, 1980.
- Kouridges, I.A., J.A. Gurr, and O. Wolf, "The Regulation and Organization of Thyroid Stimulating Hormone Genes," Recent Prog. Horm. Res., 40, 79-120, 1984.
- Krey, L.C., W.R. Butler, E. Knobil, "Surgical Disconnection of the Medial Basal Hypothalamus and Pituitary Function in the Rhesus Monkey I. Gonadotropin Secretion," Endocrinology, 96, 1073-1087, 1975.
- Kvetny, J., and H.K. Poulsen, "Nuclear Thyroxine and 3, 5, 3'-Triiodothyronine Receptors in Human Mononuclear Blood Cells during Pregnancy," Acta Endocrinol (copenh), 105, 19-23, 1984.
- Kyle, C.V., M.C. Evans, W.D. Odell, "Growth Hormone-like Material in Normal Human Tissues. J. Clin. Endocrinol Metab., 53, 1138-1144, 1981.
- Kwa, J.G., and F. Verhofstad, "Prolactin Levels in the Plasma of Female (C. 57 BL x CBA) F<sub>1</sub> Mice," J. Endocrinol., 38, 81-82, 1967.
- Lamman, J.T., "Parturition in Nonhuman Primates," Biol Reprod., 16, 25-38, 1977.

- Larochelle, F.T. Jr., M.E. Freeman, "Superimposition of Thyroid Hormone Regulation on Gonadotropin Secretion," Endocrinology., 95, 379-387, 1974.
- Larsen, P.R., "Thyroid-Pituitary Interaction," New Eng. J. Med., 306(1), 23-32, 1982.
- Larsen, P.R., "Thyroid Hormone Concentrations," Werner's the Thyroid (Ingbar S.H. and L.E. Braverman eds), pp. 479-501, J.B. Lippincott Company, London, 1986.
- Laufer, N., D. Navot, J.G. Schenker, "The Pattern of Luteal Phase Plasma Progesterone and Estradiol in Fertile Cycles," Am. J. Obstet. Gynecol., 143(7), 808-813, 1982.
- Laurberg, P., J. Topping and J. Weeke, "A Comparison of the Effects of Propylthiouracil and Methimazole on Circulating Thyroid Hormones and Various Measures of Peripheral Thyroid Hormone Effects in Thyrotoxic Patients," Acta Endocrinol. (Copenh), 108, 51-54, 1985.
- Laurell, C.B., G. Rannevik, "A Comparison of Plasma Protein Changes Induced by Danazol, Pregnancy and Estrogen," J. Clin. Endocrinol. Metab., 49, 719-725, 1979.
- Lazarus, J.H., B. Marchant, W.D. Alexander, D.H. Clark, "<sup>35</sup>S-Antithyroid Drug Concentration and Organic Binding of Iodine in the Human Thyroid," Clin. Endocrinol (Oxf), 4, 609-615, 1975.

- Lenton, E.A., L.M. Brook, O. Sobowale, I. Cooke,  
"Prolactin Concentrations in Normal Menstrual  
Cycles and Conception Cycles," Clin. Endocrinol,  
10, 383-391, 1979.
- Liewendahl, K., S. Tikanoja, T. Kelenius. V. Valimaki,  
"Discrepancies between Serum Free T3 and Free  
T4 as Measured by Equilibrium Dialysis (ED) and  
Analog RIA in Nonthyroidal Illness," Clin. Chem.,  
30(5), 760-762, 1984.
- Lombardi, G., M. Iodice, P. Miletto, B. Merola, N. Panza,  
and L. Annunziato," Prolactin and TSH Response to  
TRH and Metoclopramide before and after  
I- Thyroxine Therapy in Subclinical Hypothyroidism,  
" Neuroendocrinology., 43,676- 678, 1986.
- Longcope, C., "The Male and Female Reproductive Systems in  
Thyroid Diseases: Disorders that Cause  
Hypothyroidism," Werner's the Thyroid (Ingbar  
S.H. and L.E. Braverman, eds), pp. 1194-1198, J.B.  
Lippincott Company, London, 1986.
- Mano, M.T., B.J. Potter, G.B. Belling, B.S. Hetzel, "Low-  
Iodine Diet for the Production of Severe Iodine  
Deficiency in Marmosets ( *Callithrix jacchus*  
*jacchus*)," Brit. J. Nutrition., 54(2), 367-  
372, 1985.
- Mano, M.T., B.J. Potter, G.B. Belling, J. Chavadej, B.S.  
Hetzel, "Fetal Brain Development in Response to  
Iodine Deficiency in a Primate Model (*Callithrix*  
*jacchus jacchus*)," J.Neuro Sci., 79, 287-

300, 1987.

- Mano, M.T., B.J. Potter, G.B. Belling, D.M. Martin, B.G. Gragg, J. Chavadej, and B.S. Hetzel, "The Effects of Thyroxine, 3, 5 Dimethyl-3'-Isopropyl-L-Thyroxine and Iodized Oil on Fetal Brain Development in the Iodine Deficient Sheep," Acta Endocrinol (Copenh), 121, 7-15, 1989.
- Mahadevan, M.S. and Ooi, D.S., "Changes in Free Thyroxine Values of Clinical Assay <sup>TM</sup> Gammacoat <sup>TM</sup> Two-Step Assay," Clin. Chem., 34(5), 987, 1988.
- Martensz, N.D., and J. Herbert, "Drug-induced Hyperprolactinemia and Discharges of Luteinizing Hormone Evoked by Oestrogen in Ovariectomized Rhesus Monkeys," J. Endocrinol., 92, 111-122, 1982.
- Maruo, T., M. Hayashi, H. Matsuo, T. Yamamoto, H. Okada, M. Mochizuki, "The Role of Thyroid Hormones as a Biological Amplifier of the Actions of FSH in the Functional Differentiation of Cultured Porcine Granulosa Cells," Endocrinology, 121, 1233-1241, 1987.
- McGarrigle, H.H.G., S. Sarris, V. Little, D. Lawrence, E. Radwanska, G.I.M. Swyer, "Induction of Ovulation with Clomiphene and Human Chorionic Gonadotropin in Women with Hyperprolactinemic Amenorrhea," Br. J. Obstet. Gynecol, 85, 692-697, 1978.



- McGinty, D.A., M.L. Wilson, "Comparative Activity of Thiouracil and other Antithyroid Compounds in the Rhesus Monkey," Endocrinology, 44, 546-554, 1949.
- McGuire, R.A., D. Glincoer, M.A. Albert, J. Robbins, "Comparative Effects of Thyroxine and Triiodothyronine on Thyroxine-Binding Globulin Metabolism in Rhesus Monkeys," Endocrinology, 110, 1340-1347, 1982.
- McIntosh, G.H., B.J. Potter, M.T. Mano, C.H. Hua, B.G. Cragg, and B.S. Hetzel, "The Effect of Maternal and Fetal Thyroidectomy on Fetal Brain Development in the Sheep," Neuropatho. Appl. Neurobiol., 9, 215-223, 1983.
- McNatty, K.P. R.S. Sawers, A.S. McNeilly, "A Possible Role for Prolactin in Control of Steroid Secretion by the Human Graafian Follicle," Nature., 250, 653-655, 1974.
- McNatty, K.P., "Relationship between Plasma Prolactin and the Endocrine Microenvironment of the Developing Human Antral Follicle," Fertil & Steril., 32(4), 433-438, 1979.
- McNeilly, A.S., "Prolactin and the Control of Gonadotropin Secretion in the Female," J. Reprod. Fert., 58, 537-549, 1980a.
- McNeilly, A.S., "Paradoxical Prolactin," Nature., 284, 212, 1980b.

- McNeilly, A.S., A. Glasier, J. Hanassen, P.W. Howie,  
"Evidence for Direct Inhibition of Ovarian Function  
by Prolactin," J. Reprod. Fert., 65, 559-659.  
1982.
- McNeilly, A.S., "Prolactin," Neuroendocrinology  
(lightman, S.L. and B.J. Everitt, eds.) pp. 537-  
562, Blackwell Scientific Publications, Oxford,  
1986.
- Melander, A., B. Hallengren, S. Rosendal-Helgessen, A.K.  
Sjoberg, E. Wahlin-Boll, "Comparative in Vitro  
Effects and in Vivo Kinetics of Antithyroid  
Drugs," Eur J. Clin. Pharmacol., 17, 295-299,  
1980.
- Melmed, S., A. Harada, Y. Murata, M. Socol, A. Reed, H.E.  
Carlson, M. Azukizawa, C. Martin, E. Jorgensen,  
J.M. Hershman, "Fetal Response to Thyrotropin-  
Releasing Hormone after Thyroid Hormone Adminis-  
tration to the Rhesus Monkey lack of Pituitary  
Suppression," Endocrinology, 105, 334-341, 1979.
- Miller, R.E., "Hypothyroidism in a Chimpanzee," JAVMA,  
183(1), 1326-1328, 1983.
- Miyai, K., T. Onishi, M. Hosokawa, K. Jshibashi, and Y.  
Kumahara, "Inhibition of Thyrotropin and Prolactin  
Secretions in Primary Hypothyroidism by 2-Br-L-  
Ergocryptine," J. Clin. Endocrinol. Metab.,  
39, 391-394, 1974.
- Monfort S.L., D.L. Hess, S.E. Shideler, S.J. Samuels,  
A.G. Hendrickx and B.L. Lasley, "Comparison of

- Serum Estradiol to Urinary Estrone Conjugates in the Rhesus Macaque (*Macaca mulatta*)," Biol Repro, 37, 832-837, 1987.
- Montaya, E., M.J. Seibel, J.F. Wilber, "Thyrotropin Releasing Hormone Secretory Physiology Studies by RIA and Affinity Chromatography," Endocrinology, 96, 1413-1418, 1975.
- Monroe S.E., W.D. Peckham, J.D. Neill and E. knobil, "A Radioimmunoassay for Rhesus Monkey Luteinizing Hormone (RhLH)," Endocrinology, 86, 1012-1018, 1970.
- Montoro, M., J.V. Collea, S.D. Frasier, J.H. Mestmen, "Successful Outcome of Pregnancy in Women with Hypothyroidism," Ann. Intern. Med., 94, 31-34, 1981.
- Mooradian, A.D., "Metabolic Fuel and Amino Acid Transport into the Brain in Experimental Hypothyroidism," Acta Endocrinol. (Copenh), 122(2), 156-162, 1990.
- Morreale De Escobar, G., R. Pastor, M.J. Obregon and F. Escobar Del Rey, "Effects of Maternal Hypothyroidism on Weight and Thyroid Hormone Content of Rat Embryonic Tissue, before and after Onset of Fetal Thyroid Function," Endocrinology, 117, 1890-1900, 1985.
- Morreale de Escobar, G., M.J. Obregon, C. Ruiz de Ona, F. Escobar del Rey, "Comparison of Maternal to Fetal Transfer of 3, 5, 3 - Tri-iodothyronine

- versus Thyroxine in Rats, as Assessed from 3, 5, 3  
-Tri-iodothyronine Levels in Fetal Tissues,"  
Acta Endocrinol. (Copenh), 120, 20-30, 1989.
- Muhlenstedt, D., W. Wultke, H.P.G. Schneider, "Prolactin  
and Short Luteal Phase Infertility," Acta  
Endocrinol. (Copenh), 84, suppl 208, p. 43,  
1977. (Abstr.)
- Myant, M.B., "Passage of Thyroxine and Triiodothyronine  
from Mother to Fetus in Pregnant Women," Clin.  
Sci., 17, 75-79, 1958.
- Neill, J.D., W.D. Peckham, and E. Knobil, "Apparent  
Absence of Immunological Cross-Reactivity between  
Human and Simian Gonadotropic Hormones as  
Determined by Radioimmunoassay," Nature (London,  
213, 1014-1015, 1967.
- Neill, J.D., M.E. Freeman, S.A. Tillson, "Control of the  
Procstrus Surge of Prolactin and Luteinizing  
Hormone Secretion by Estrogens in the Rat,"  
Endocrinology, 89, 1448-1453, 1971.
- Nesbitt, R.E.L., R.W. Abdul-Karim, J.T. Prior, T.F.  
Shelley, J.E. Rourke, "Study of the Effect of  
Experimentally Induced Endocrine Insults upon  
Pregnancy and Non Pregnant Ewes. III. ACTH and  
PTU Administration and the Production of  
Polycystic Ovaries," Fertil & Steril., 18,  
739-758, 1967.

- Nicoloff, J.T., "Physiologic and Pathophysiologic Implications of Hormone Binding," Werner's the Thyroid (Ingbar S.H. and L.E. Braverman eds), pp. 128-135, J.B. Lippincott Company, London, 1986.
- Noel, G.L., R.C. Dimond, L. Wartofsky, J.M. Earll and A.G. Frantz, "Studies of Prolactin and Thyroid-Stimulating Hormone Secretion by Continuous Infusion of Small Amounts of Thyroid-Stimulating Releasing Hormone," J. Clin. Endocrinol. Metab., 39, 6-17, 1974.
- Norman, R.J., C. Lowings, T. Oliver, T. Chard, "Doubts about Human Chorionic Gonadotropin as a Thyroid Stimulator," Lancet., 1, 1096, 1985.
- Obregon, M.J., J. Mallol, R. Pastor, G. Morreale De Escobar and F. Escobar Del Rey, "L-Thyroxine and 3, 5, 3' - Triiodo-L-Thyronine in Rat Embryos before Onset of Fetal Thyroid Function," Endocrinology, 114, 305-307, 1984a.
- Obregon, M.J., P. Santisteban, A. Rodriguez-Pena, A. Pascual, P. Cartagena, A. Ruiz-Marcos, L-Lamas, F. Escobar Del Rey and G. Morreale De Escobar, "Cerebral Hypothyroidism in Rats with Adult-Onset Iodine Deficiency," Endocrinology, 115, 614-624, 1984b.
- Odell, W.D., R.D. Utiger, J.F. Wilber, P.G. Condliffe, "Estimation of the Secretion Rate of Thyrotropin in Man," J. Clin. Invest., 46(6), 953-959,

1957.

- Okuno, A., K. Yano, F. Imyaku, Y. Suzuki, N. Sanae, M. Kumai, Y. Naitoh, "Pharmacokinetics of MMI in Children and Adolescents with Grave's Disease Studies on Plasma and Intrathyroidal Concentrations," Acta Endocrinol., (Copenh), 115, 112-118, 1987.
- Onishi, T., K. Miyai, T. Aono, T. Shioji, T. Yamamoto, Y. Okada, and Y. Kumahara, "Primary Hypothyroidism and Galactorrhea," Am. J. Med., 63, 373-378, 1977.
- Osorio, C., N.B. Myant, "The Passage of Thyroid Hormones from Mother to Fetus and Its Relation to Fetal Development," Brit. Med. Bull., 16, 159-164, 1960.
- Pardridge, W.M., "Plasma Protein-Mediated Transport of Steroid and Thyroid Hormones," Am. J. Physiol., 252, E157-E164, 1987.
- Pavasuthipaisit, K., R.L. Norman, W.E. Ellinwood, T.T. Oyama, W.L. Baughman, H.G. Spies, "Different Prolactin, Thyrotropin and Thyroxine Responses after Prolonged Intermittent a continuous Infusions of Thyrotropin-Releasing Hormone in Rhesus Monkeys," J. Clin. Endocrinol. Metab., 56, 541-548, 1983.
- Peckham, W.D., D.L. Foster, E. Knobil, "A New Substance Resembling Luteinizing Hormone in Blood of Rhesus Monkeys," Endocrinology, 100, 826-831, 1977.
- Pekonen, F., H. Alfthan, U-H. Stenman and O. Ylikorkala, "Human Chorionic Gonadotropin (hCG) and Thyroid

Function in Early Human Pregnancy : Circadian Variation and Evidence for Intrinsic Thyrotropic Activity of hCG," J. Clin. Endocrinol Metab., 66, 853-856, 1988.

Peters, A.R. S. Vyvoda and G.E. Lamming, "Comparison of Plasma Prolactin Levels in the Milked and Suckling Cow," J. Endocrinol., 83, 27P-28P, 1979 (Abstract).

Pharoah, P.O.D., I.H. Buttfield and B.S. Hetzed, "Neurological Damage to the Fetus Resulting from Severe Iodine Deficiency during Prenancy," Lancet, 1, 308-310, 1971.

Pharoah, P.O.D., I.H. Buttfield and B.S. Hetzel, "The Effect of Iodine Prophylaxis on the Incidence of Endemic Cretinism," Adv. Exp. Med. Biol., 30, 201-221, 1972.

Pharoah, P.O.D., N.F. Lawton, E.S. Williams and R.P. Ekins, "The Role of Tri-iodothyronine (T3) in the Maintenance of Euthyroidism in Endemic Goiter," Clin. Endocrinol, 2, 193-199, 1973.

Pharoah, P.O.D., R.W. Hornabrook, "Endemic Cretinism of Recent Onset in New Guinea," Lancet., 2, 1038-1040, 1974.

Pharoah, P.O.D., S.M. Ellis, R.P. Ekins, E.S. Williams, "Maternal Thyroid Function, Iodine Deficiency and Fetal Development," Clin. Endocrinol., 5, 159-166, 1976.

- Pharoah, P.O.D., F. Delange, R. Fierro-Benitez and J.B. Stanbury, "Endemic Cretinism," Endemic Goiter and Endemic Cretinism (Stanbury, J.B. and B.S. Hetzel eds), pp. 395-422, Wiley & Sons, NY, 1980.
- Pharoah, P.O.D., K. Connolly, B. Hetzel and R. Ekins, "Maternal Thyroid Function and Motor Competence in the Child," Dev. Med. Child Neurol., 23, 76-82, 1981.
- Pickering, D.E., N.E. Kontaxis, "Thyroid Function in the Fetus of the Macaque Monkey (*Macaca mulatta*) II. Chemical and Morphological Characteristics of the Fetal Thyroid Gland," J. Endocrinol., 23, 267-275, 1961.
- Pickering, D.E., K.F. Settergren, N.E. Kontaxis, "Thyroid Function in the Fetus of the Macaque monkey (*Macaca mulatta*) I. The Quantitative Estimation of the Iodinated Components of the Thyroid Gland," J. Endocrinol., 23, 261-265, 1961.
- Pickering, D.E., K.F. Settergren, N.E. Kontaxis, "Thyroid Gland Function in the Infant Macaque Monkey," Am. J. Dis. Child. 105, 77-80, 1963.
- Pickering, D.E., "Thyroid Physiology in the Developing Monkey Fetus (*Macaca mulatta*)," Gen Comp. Endocrinol. 10, 182-190, 1968.
- Pittman, J.A., R.J. Beschi, T.C. Smitherman, "Methimazole : Its Absorption and Excretion in Man and Tissue Distribution in Rats," J. Clin. Endocrinol.



- Metab., 33, 182-185, 1971.
- Plant, T.M., L.C. Krey, J. Moossy, J.T. McCormack, D.L. Hess and E. Knobil, "The Arcuate Nucleus and the Control of Gonadotropin and Prolactin Secretion in the Female Rhesus Monkey (*Macaca mulatta*)," Endocrinology, 102(1), 52-62, 1978.
- Potter, B.J., M.T. Mano, G.B. Belling, G.H. McIntosh, D. Hua, B.G. Cragg, J. Marshall, M.L. Wellby, B.S. Hetzel, "Retarded Fetal Brain Development Resulting from Severe Dietary Iodine Deficiency in Sheep," Neuropath. Appl. Neurobiol., 8, 303-313, 1982.
- Potter, B.J., M.T. Mano, G.B. Belling, D.M. Martin, B.G. Cragg, J. Chavadej and B.S. Hetzel, "Restoration of Brain Growth in Fetal Sheep after Iodized Oil Administration to Pregnant Iodine-Deficient Ewes," J. Neuro Sci., 66, 15-26, 1984.
- Potter, B.J., G.H. McIntosh, M.T. Mano, P.A. Baghurst, J. Chavadej, C.H. Hua, B.G. Cragg and B.S. Hetzel, "The Effect of Maternal Thyroidectomy prior to Conception on Foetal Brain Development in Sheep," Acta Endocrinol. (Copenh) 112, 93-99, 1986.
- Price, A., H. Griffiths and B.W. Morris, "A Longitudinal Study of Thyroid Function in Pregnancy," Clin. Chem., 35(2), 275-278, 1989.
- Quadri, S.K. and H.G. Spies, "Cyclic and Diurnal Patterns of Serum Prolactin in the Rhesus Monkey," Biol Reprod., 14, 495-501, 1976.

- Quint, A.R., and F.E. Kaiser, "Gonadotrophin Determinations and TRH and LHRH Testing in Critically Ill Postmenopausal Women with Hypothyroxinemia," J. Clin. Endocrinol. Metab., 60, 464-471, 1985.
- Ramey, J.N., G.N. Burrow, R.J. Polackwich, R.K. Donabedian, "The Effect of Oral Contraceptive Steroids on the Response of TSH to TRH." J. Clin. Endocrinol Metab., 40, 712-714, 1975.
- Ramalingasawami, V., "Endemic Goiter in Southeast Asia New Cloths on an Old Body," Ann. Intern Med., 78(2), 277-283, 1973.
- Ranta, T., P. Mannisto, J. Tuomisto, "Evidence for Dopaminergic Control of Thyrotropin Secretion in the Rat," J. Endocrinol., 72, 329-335, 1977.
- Rapoport, B., S. Refetoff, V.S. Fang and H.G. Friesen, "Suppression of Serum Thyrotropin by L-Dopa in Chronic Hypothyroidism : Interrelationships in the Regulation of Thyrotropin and Prolactin Secretion," J. Clin. Endocrinol. Metab., 36, 256-262, 1973.
- Rasmussen, N.G., P.J. Hornnes, L. Hegedus and U. Feldt Rasmussen, "Serum Thyroglobulin during the Menstrual Cycle, during Pregnancy and Post Partum," Acta Endocrinol (Copenh), 121, 168-173, 1989.
- Reeves, B.D. and E. Diczfalusy, "Plasma Progesterone and Competitive Protein Binding Assay," Am. J. Obstet. Gynecol., 109, 775-786, 1971.

- Refetoff, S., v.s. Fang, B. Rapoport and H.G. Friesen,  
"Interrelationship in the Regulation of Thyroid-  
Stimulating Hormone and Prolactin Secretion in  
Man : Effects of L-Dopa, Thyroid-Stimulating  
Releasing Hormone and Thyroid Hormone in Various  
Combinations," J. Clin. Endocrinol. Metab.,  
38, 450-457, 1974.
- Ren, S.G., S. Malozowski, C. Simoni, H. Garcia, M. Caruso-  
Nicoletti, G.B. Jr. Cutler and F. Cassorla,  
"Dose-Response Relationship between Thyroid  
Hormone and Growth Velocity in Cynomolgus  
Monkeys," J. Clin. Endocrinol. Metab., 66,1010-  
1013, 1988.
- Richards, J.S., "Maturation of Ovarian Follicles : Actions  
and Interactions of Pituitary and Ovarian Hormones  
in Follicular cell Differentiation," Physiol.  
Rev., 60, 51-89, 1980.
- Richardson, D.W., L.T. Goldsmith, C.R. Pohl, E.  
Schallenberger, "The Role of Prolactin in the  
Regulation of the Primate Corpus Luteum," J. Clin.  
Endocrinol. Metab., 60, 501-504, 1985.
- Rillema, J.A., "Mechanism of Prolactin Action," Fed. Proc.,  
39, 2593-2598, 1980.
- Robbins, J., and H. Edelhoeh, "Hormone Transport in  
Blood," Werner's the Thyroid (Ingbar S.H. and  
L.E. Braverman, eds), pp. 116-127, Lippincott  
Company, London, 1986.

- Robyn, C., D. Delvoeye, C. Van Exter, M. Vekmans, A. Caufriez, P. De Nayer, J. Delogne-Desnoeck, M.L. Hermite, "Physiological and Pharmacological Factors Influencing Prolactin Secretion and Their Relation to Human Reproduction," Prolactin and Human Reproduction, (Crosignam, P.G. and C. Robyn, eds), pp. 71-96, Academic Press, NY, 1976.
- Rogers, J., "Medical Progress : Menstruation and Systemic Disease, Thyroid Disorders," New Eng. J. Med., 259, 721-727, 1958.
- Ross, G.T., D.A. Scholz, E.H. Lambert, J.E. Geraci, "Severe Uterine Bleeding and Degenerative Skeletal Muscle Changes in Unrecognized Myxedema," J. Clin. Endocrinol. Metab., 18, 492-500, 1958.
- Ross, F. and M.L. Nusynourtz, "A Syndrome of Primary Hypothyroidism Amenorrhea and Galactorrhea," J. Clin. Endocrinol. Metab., 28, 591-595, 1968.
- Sachson, R., S.W. Rosen, P. Cauatrecasas, J. Roth., A.G. Frantz, "Prolactin Stimulation by Thyrotropin-Releasing Hormone in a Patient with Isolated Thyrotropin Deficiency," New Eng. J. Med., 287,(19), 972-973, 1972.
- Saiduddin, S., "Compensatory Ovarian Hypertrophy After Unilateral Ovariectomy in Hypothyroid Rats," J. Endocrinol., 54, 371-372, 1972.
- Saldarini, R.J., J.M. Spieler, J.A. Coppola, "Plasma Estrogens, Progestins and Spinnbarkeit

Characteristics during Selected Portions of the Menstrual Cycle of the Cynomolgus Monkey (*Macaca fascicularis*)," Biol. Repro., 7, 347-355, 1972.

Samarajeewa, P., G. Cooley, and A.E. Kellic, "The Radioimmunoassay of Pregnanediol-3L-Glucuronide," J. Steroid Biochem., 11, 1165-1171, 1979.

Sanchez-Franco, F., M.D. Garcia, L. Cacicedo, A. Martin-Zurro, F. Escobar del Rey, "Influence of Sex Phase of the Menstrual Cycle on Thyrotropin (TSH) Response to Thyrotropin-Releasing Hormone (TRH)," J. Clin. Endocrinol. Metab., 37, 736-740, 1973.

Saxena, B.N., N. Dusitsin, V. Poshyachinda and I. Smith, "Luteinizing Hormone, Estradiol and Progesterone levels in the Serum of Menstruating Thai Women," J. Obstet. Gynec Brit Commonwealth., 81(2), 113-119, 1974.

Saxena, B.N., V. Poshyachinda and N. Dusitsin, "A Study of the Use of Intermittent Serum Luteinizing Hormone, Progesterone and Estradiol Measurements for the Detection of Ovulation," Brit. J. Obstet. Gynecol., 83(8), 660-664, 1976.

Scanlon, M.F., D.R. Weightman, B. Mora, M. Heath, D.J. Shale and M.H. Snow, "Evidence for Dopaminergic Control of Thyrotropin Secretion in Man," Lancet., 2, 421-423, 1977.

Scanlon, M.F., D.R. Weightman, D.J. Shale, B. Mora, M. Heath, M.H. Snow and R. Hall, "Dopamine is a

- Physiological Regulator of Thyrotrophin (TSH) Secretion in Man," Clin. Endocrinol., 10, 7-15, 1979.
- Schallenberger, E., Richardson, D.W., Knobil, E., "Role of Prolactin in the Lactational Amenorrhea of the Rhesus Monkey (*Macaca Mulatta*)," 25, 370-374, 1981.
- Scott, J.C., E. Mussey, "Menstrual Patterns in Myxedema," Am. J. Obstet. Gynecol., 90(2), 161-165, 1964.
- Scommegna, A., and Chatterai, S.C., "Urinary Pregnenediol and Creatinine Excretion in the Female of Menstrual Age," Obstet Gynecol, 30(2), 242-248, 1967.
- Seegar-Jones, G.E., E. Delfs, E.C. Foote, "The Effect of Thiouracil Hypothyroidism on Reproduction in the Rat," Endocrinology, 38(6), 337-342, 1946.
- Seppala, M., E. Hirvonen, T. Ranta, "Hyperprolactinemia and Luteal Insufficiency," Lancet., 1, 229-230, 1976.
- Shaikh, A.A., R.H. Naqvi and S.A. Shaikh, "Concentrations of Estradiol -17B and Progesterone in the Peripheral Plasma of the Cynomolgus Monkey (*Macaca fascicularis*) in Relation to the Length of the Menstrual Cycle and its Component Phases," J. Endocrinol., 79, 1-7, 1978.
- Shearman, R.P. and J.R. Turtle, "Secondary Amenorrhea with Inappropriate Lactation," Am. J. Obstet. Gynecol, 106, 818-827, 1970.

- Shenkman, L., T. Mitsuma, A. Suphavai, C.S. Hollander,  
"Tri-iodothyronine and Thyroid Stimulating  
Hormone Response to Thyrotrophin-Releasing  
Hormone : A New Test of Thyroidal and Pituitary  
Reserve," Lancet, 1, 111-112, 1972.
- Sherman, B.M. and S.G. Korenman, "Hormonal Characteristics  
of the Human Menstrual Cycle Throughout  
Reproductive Life," J. Clin. Invest., 55,  
699-706, 1975.
- Shiroozu, A., K.O. Kamura, H. Ikenoue, K. Sata, T.  
Nakashima, M. Yoshinari, M. Fujishima and T.  
Yoshizumi, "Treatment of Hyperthyroidism with a  
Small Single Daily Dose of Methimazole," J. Clin.  
Endocrinol. Metab., 63, 125-128, 1986.
- Shiu, R.P.C. and H.G. Friesen, "Mechanism of Action of  
Prolactin in the Control of Mammary Gland  
Function," Ann. Rev. Physiol., 42, 83-96, 1980.
- Skellern, G.G., B.I. Knight, C.K.L. Low, W.D. Alexander,  
D.G. McLarty and W.J. Kalk, "The Pharmacokinetics  
of Methimazole after Oral Administration of  
Carbimazole and Methimazole in Hyperthyroid  
Patients," Br. J. Clin. Pharmacol., 9, 137-143,  
1980.
- Skjoldebrand, L., J. Brundin, A. Carlstrom and T.  
Pettersson, "Thyroid Associated Components in  
Serum during Pregnancy," Acta Endocrinol (Copenh),  
100, 504-511, 1982.

- Skjoldebrand, L., J. Brundin, K. Carlstrom, A. Carlstrom,  
"Oestrogen and Thyroxine-Binding Globulin Levels  
in Early Normal Pregnancy," Acta Endocrinol.  
(Copenh), 114, 298-304, 1987.
- Skjoldebrand, L., J. Brundin, A. Carlstrom, B.V. Schoultz,  
K. Carlstrom, "Serum Levels of Estrogens and of  
Five Steroid Sensitive Proteins in Early Normal  
Pregnancy," Acta Endocrinol (Copenh), 118,  
239-244, 1988.
- Slaunwhite, W.R., Fundamentals of Endocrinology, pp.  
129-154, Marcel Dekker Inc., New York, 1988.
- Smallridge R.C., I. Mehlman, C.L. Pamplin, N.E. Whorton,  
R.C. Dimond, T. Doyle and L. Wartofsky,  
"Pituitary and Thyroid Function in Male Cynomolgus  
Monkeys," Lab. Ani. Sci., 31(6), 693-696, 1981.
- Snyder, P.J., L.S. Jacobs, R.D. Utiger and W.H. Daughaday,  
"Thyroid Hormone Inhibition of the Prolactin  
Response to Thyrotropin-Releasing Hormone,"  
J. Clin. Invest., 52, 2324-2329, 1973.
- Solomon, D.H., "Antithyroid Drug : Treatment, Antithyroid  
drugs, Surgery, Radioiodine, Selection of  
Therapy," The Thyroid (Werner, S., S.H. Ingbar),  
pp. 814-821, Harper & Row, New York, 1978.
- Song, C.L., M.A. Rifkind, P. Gillette, A. Kappas, "The  
Influence of Pregnancy and Oral Contraceptive  
Steroids on the Concentration of Plasma Protein,"  
Am. J. Obstet. Gynecol., 108, 227-231, 1970.



- Southren, A.L., J. Olivo, G.G. Gordon, J. Vittek, J. Brener, and F. Rafii, "The Conversion of Androgens to Estrogens in Hyperthyroidism," J. Clin. Endocrinol. Metab., 38, 207-214, 1974.
- Stabenfeldt, G.H. and A.G. Hendrickx, "Progesterone Studies in the *Macaca fascicularis*," Endocrinology, 92, 1296-1300, 1973.
- Standeven, R.M., "Thyroid Function Test during Pregnancy, the Normal Menstrual Cycle and in Women Using Oral Contraceptives," J. Endocrinol., 43, 217-224, 1969.
- Stanley, M.M. and E.B. Astwood, "1-Methyl-2-Mercaptoimidazole : An Antithyroid Compound Highly Active in Man," Endocrinology, 44, 588-600 1949.
- Strott, C.A., C.M. Cargille, G.T. Ross and M.B. Lipsett, "The Short Luteal Phase," J. Clin. Endocrinol. Metab., 30, 246-251, 1970.
- Studer, H. and M.A. Greer, "Thyroid Function during the Rebound Phase Following the Discontinuation of Antithyroid Drugs," Endocrinology, 80, 52-60, 1967.
- Suwanprasert, K., Chaiseha, Y., V. Puttipongse, "Induction of Hypothyroidism in Female *Cynomolgus* Monkey by Methimazole and Its Effect on the Pattern of Menstrual Bleeding and Ovarian Steroid Production," 13rd Conference on Science and

Technology of Thailand, pp. 504-505, Songkhla, 1987.

Suwanprasert, K., P. Varavudhi and V. Poshyachinda, "Alternation of TSH and Thyroid Hormone Production in Female *Macaca fascicularis* during 365 Days Feeding with Various Dosages of MMI," International Conference on Reproductive Endocrinology, pp. 166, Beijing, Republic of China, 1988.

Suwanprasert, K. and P. Varavudhi, "Diurnal Pattern of Prolactin Secretion in Free-Ranging Cynomolgus Monkeys (*Macaca fascicularis*)," 15th Conference on Science and Technology of Thailand, pp. 368, Chiangmai, 1989a.

Suwanprasert, K., P. Varavudhi, V. Poshyachinda and N. Chaisiri, "Physiological Significance of TBG on Regulation of Thyroid Hormone Function in Adult Female *Macaca fascicularis* during Normal Cycle, MMI-Induced Hypothyroidism and Pregnancy," Asia & Aecania Society of Comparative Endocrinology (Chan. D.K.O. ed.), pp. 101-102, Hongkong, 1989b.

Suwanprasert, K., P. Varavudhi, P. Poshyachinda, N. Chaisiri, "Relationship between E2, T4 and Serum TBG Profiles during Pregnancy and Induced Hypothyroidism in Female Cynomolgus Monkeys," Proceeding XIII th Congress International primatological Society, Elsevier Science Publisheres, Amsterdam, 1990 (in press)

- Symons, R.G., T.J. Wilke, M.L. Wellby, "Studies on the Accuracy of a Quantitative Kit RIA for Free Thyroxine," Ann. Clin. Biochem., 20, 280-284, 1983.
- Tachman, M.L. and G.D. Guthrie, "Hypothyroidism : Diversity of Presentation," Endocrinol Rev., 5(3), 456-465, 1984.
- Tangpraprutigul, P., P. Cholvanich, P. Varavudhi, "Effect of Bromocryptine on Serum Levels of Luteinizing Hormone, Estradiol-17B, Progesterone and Prolactin in Spontaneous Galactorrhea Female Cynomolgus Monkeys," J. Sci. Soc. Thailand., 13, 205-220, 1987.
- Takahashi, T., K. Goto, S. Sudo, M. Suzuki, "Effects of L-Triiodothyronine on Tubulin Content in Developing Male and Female Rat Brains," Endocrinol Jap., 28, 799-808, 1981.
- Takayama, S., K. Alhara, T. Onodera, T. Akimoto, "Anti-Thyroid Effects of Propylthiouracil and Sulfamonomethoxine in Rats and Monkeys," Toxico Appli Pharmacol., 82, 191-199, 1986.
- Takasu, N., S. Sato, T. Tsukui, T. Yamada, R. Furihata, and M. Makinchi, "Inhibitory Action of Thyroid Hormone on the Activation of Adenyl Cyclase-Cyclic AMP System by Thyroid-Stimulating Hormone in Human Thyroid Tissues from Euthyroid Subjects and Thyrotoxic Patients," J. Clin. endocrinol. Metab.,

39, 772-778, 1974.

Tashjian, A.H., N.J. Barowsky, D.K. Jansen, "Thyrotropin-Releasing Hormone : Direct Evidence for Stimulation of Prolactin Production by Pituitary Cell in Culture," Biochem. Biophys. Res. Commun., 43, 516-523, 1971.

Taurog, A., "The Mechanism of Action of Thioureylene Antithyroid Drugs," Endocrinology., 98, 1031-1046, 1976.

Tkachenko, N.N., V.V. Potin, S.V. Beskrovnyi and L.Q. Nosova, "Hypothyroidism and Hyperprolactinemia," Abstr. Akush Ginekol (Mosk), 10 Oct, 40-43, 1989.

Toft, A.D., A.R. Boyns, E.N. Cole, "The Effect of Thyroid Stimulating-Relasing Hormone on Plasma Prolactin and Thyroid-Stimulating Hormone Levels in Primary Hypothyroidism," Clin. Endocrinol. (Oxford), 2, 289-300 , 1973.

Tuomisto, J. and P. Mannisto, "Neurotransmitter Regulation of Anterior Pituitary Hormones," Pharmaco Rev., 37(3), 249-332, 1985.

Tyson, J.E., H.G. Friesen, M.S. Anderson, "Human Lactational and Ovarian Response to Endogenous Prolactin Release," Science., 177, 897-900, 1972.

Vanmiddlesworth, L., " Pituitary- Thyroid Function in Pregnancy", Endocrinology of Pregnancy ( Given J. R., and G. D. Anderson, eds. ) pp 49-59, Year Book Medical Publisher, Chicago, 1981.

- Van Wyk, J. and M.M. Grumbach, "Syndrome of Precocious Menstruation and Galactorrhea in Juvenile Hypothyroidism : An Example of Hormonal Overlap Pituitary Feedback," J. Pediatr., 57, 416-435, 1960.
- Varavudhi, P. and V. Yodyingyuad, "Hormonal Changes during the Menstrual Cycles in the Crab Eating Monkeys, *Macaca fascicularis*., Non-Human Primate Models for Study of Human Reproduction," Satellite Symposium (Anand Kumar, T.C. ed.), pp. 55-60, Karger, Basel. 1980.
- Varavudhi, P., P. Tangpraprutigul, V. Yodyingyuad and P. Lamsa-ad, "Regulation of Corpus Luteum Function in *Tupaia glis* and *Macaca fascicularis*," JAFES., 2(2), 91-102, 1982.
- Varavudhi, P., K. Suwanprasert, K. Chaiseha, Y., and Poshyachinda, V., "Disorder of Reproductive Hormone in Female *Cynomolgus* Monkey Force-Fed Daily with Antithyroid Drug, Methimazole," International Conference on Reproductive Endocrinology, pp. 100, Beijing, Republic of China, 1988.
- Varavudhi, P., K. Suwanprasert, and V. Poshyachinda, "Infertility in Female *Macaca fascicularis* Forced-fed with Antithyroid Drug (Methimazole) and Its Recovery after Drug withdrawal," Asia & Oceania Society of Comparative Endocrinology

- (Chan D.K.O. ed), pp. 99-100, Hongkong, 1989.
- Varavudhi, P., K. Suwanprasert, W. Setthetham,  
"Reproductive Endocrinology of Adult Free-Ranging  
Cynomolgus Monkeys in Thailand," Proceeding XIIIth  
Congress International Primatological Society,  
Kyoto University, 1990 (in press)
- Veldhuis, J.D., J.M. Hammond, "Oestrogens Regulate  
Divergent Effects of Prolactin in the Ovary,"  
Nature, 284, 262-264, 1980.
- Wang, C., A.J.W. Hsueh, G.F. Erickson, "Prolactin  
Inhibition of Estrogen Production by Cultured Rat  
Granulosa Cell," Molec Cell Endocr., 20, 135-  
144, 1980.
- Weeke, J. and A.P. Hansen, "Serum Thyroid-Stimulating  
Hormone and Serum Triiodothyronine Levels during  
Normal Menstrual Cycles and during Cycles on Oral  
Contraceptives," Acta Endocrinol, (Copenh),  
79, 431-438, 1975.
- Wherry, F.E., L.L. Pennington, R.W. Bates, M.M. Garrison,  
A.L. Ehle, and J.W. Mason, "Immunological Cross-  
Reactivity between Monkey and Human Thyroid  
Stimulating Hormone as Determined by RIA : A Rapid  
Procedure for Purifying Labeled 125I-TSH,"  
Endocrinology, 86, 769-773, 1970.
- WHO Collaborating Centre for Research and Reference  
Services in the Immunoassay of Hormones in Human  
Reproduction," Method Manual, WHO , Geneva, 1986.

- Wilke, T.J., "Five Kits for Estimating Free Thyroxine Concentration in Serum Evaluated, and Correlated with other Indices to Thyroid Status," Clin. Chem., 28(10), 2051-2056, 1982.
- Wilke, T.J., "Estimation of Free Thyroid Hormone Concentrations in the Clinical Laboratory," Clin. Chem., 32(4), 585-592, 1986.
- Wilkins, T.A., "Albumin in Analog Free T4 Assay Reagent : The Facts," Clin. Chem., 33(7), 1293, 1987.
- Williams, C., D. Phelps, and J.C. Burch, "Observation on the Effect of Hypothyroidism on Ovarian Function in the Guinea Pig," Endocrinology, 29, 373-385, 1941.
- Winikoff, D., "Oral Contraceptives and Thyroid Function Tests : The Role of Progestogens," Med. J. Aust., 2, 13-18, 1968.
- Wirquin, E., A. Develay, S. Linsker, N. Bonfanti, "Diagnostic Value of Clinical Assays Two-Step : Immunoextraction" RIA for Free Thyroxin in Nonthyroidal," Clin. Chem., 33(1), 188, 1987.
- Witherspoon, L.R., A.S.E. Shami, S.E. Shuler, H. Neely, R. Sonnemaker, S.S. Gilbert, and K. Alyea, "Chemically Blocked Analog Assays for Free Thyroxines. I. The Effect of Chemical Blockers on T4 Binding by Albumin and by Thyroxine Binding Globulin," Clin. Chem., 34, 9-16, 1988.

- Woeber, K.A., "Tests of Thyroid Hormone Transport," Werner's the Thyroid (Ingbar S.H. and L.E. Braverman, eds.), pp. 502-510, J.B. Lippincott Company, London, 1986.
- Woods, R.J., Sinha, A.K., Ekins, R.P., "Uptake and Metabolism of Thyroid Hormones by the Rat Foetus in Early Pregnancy," Clin. Sci., 67, 359-363, 1984.
- Yamayi, T., "Modulation of Prolactin Release by Altered Levels of Thyroid Hormones," Metabolism., 23(8), 745-751, 1974.
- Yoshida, T., M. Nakajima, A. Hiyaoka, M.T. Suzuki, F. Cho and S. Honjo, "Menstrual Cycle Lengths and the Estimated Time of Ovulation in the Cynomolgus Monkey (*Macaca fascicularis*)," Exp. Anim., 31(3), 165-174, 1982.
- Yoshida, T., M. Sato, K. Ohtoh, F. Cho, and S. Honjo, "Effects of Aging on the in Vivo Release of Thyrotropin (TSH), Triiodothyronine, and Thyroxine Induced by TSH-Releasing Hormone in the Cynomolgus Monkey (*Macaca fascicularis*)," Endocrinology, 124, 1287-1293, 1989.
- Yu, S., Y. Friedman, R. Richman and G. Burke, "Altered Thyroidal Responsivity to Thyrotropin Induced by Circulating Thyroid Hormones," J. Clin. Invest., 57, 745-755, 1976.



Zaninovich, A.A., "Direct and Indirect Effects of Estrogens on Thyroidal Economy of Man," Physiopathology of Endocrine Diseases and Mechanisms of Hormone Action (Liss, A.R. ed.), pp. 95-102, NY, 1981.

## CHAPTER VII

### APPENDICES

#### Appendix I

##### 1. Chemical Reagents

|   |                                |
|---|--------------------------------|
| BSA (RIA grade)   | : Sigma Chemical Company, USA. |
| Charcoal Reagent  | : WHO RIA Reagent Program      |
| Chloramine T (MW 281.69)  | : E. Merck, Germany.           |
| Dextran   | : WHO RIA Reagent Program      |
| Decon-90  | : BDH Chemical Ltd.            |
| Diethyl Ether   | : E. Merck, Germany.           |
| Dioxane (GR)  | : E. Merck, Germany.           |
| Disodium hydrogen phosphate ( $\text{Na}_2\text{HPO}_4 \cdot 2\text{H}_2\text{O}$ ; MW 177.99)                | : E. Merck, Germany.           |
| EDTA ( $\text{C}_{10}\text{H}_{14}\text{N}_2\text{Na}_2\text{O}_8 \cdot 2\text{H}_2\text{O}$ , MW 372.24)     | : E. Merck, Germany.           |
| Ethanol (absolute)  | : E. Merck, Germany.           |
| Gelatin (GR)  | : E. Merck, Germany.           |
| Hydrochloric acid   | : E. Merck, Germany.           |
| Liquidfluor   | : New England Nuclear, USA.    |
| Sephadex G-100  | : Pharmacia, Uppsala, Sweden.  |
| Sodium azide  | : Sigma Chemical Company, USA. |
| Sodium chloride (NaCl)  | : E. Merck, Germany.           |
| Sodium hydroxide (GR)   | : BDH Chemical Ltd.            |
| Sodium dihydrogen phosphate monohydrate ( $\text{NaH}_2\text{PO}_4 \cdot \text{H}_2\text{O}$ , MW 137.99)(GR) | : E. Merck, Germany.           |

Sodium disulfate ( $\text{Na}_2 \text{S}_2 \text{O}_5$  , MW 190.10)

: E. Merck, Germany.

Toluene (GR)

: E. Merck, Germany.

Thiomersal

: Sigma Chemical Company, USA.

## 2. Radioactive Reagents

Iodine-125 (in NaOH) 5 mCi, IMS 300, batch no. 138AA

: Amersham International plc,  
England.

$^{125}\text{I}$ - Cyn LH : Purified Cyn LH from NIH, USA.

$^{125}\text{I}$ - I-TSH ( Lot no. 0323) : Baxter Travenol, USA.

$^{125}\text{I}$ - T4 (Lot no. 5042) : Baxter Travenol, USA.

$^{125}\text{I}$ - TBG (Lot no. 0214) : Baxter Travenol, USA.

$^{125}\text{I}$ - T3 (Lot no. 2167) : DPC, USA.

$^{125}\text{I}$ - T4 (Lot no. 407) : DPC, USA.

$^{125}\text{I}$ - PRL (lot no. 291) : DPC, USA.

2,4,6,7- $^3\text{H}$ -E<sub>2</sub> (250 uCi, batch no. 103) : Amersham, England

1,2,6,7, $^3\text{H}$ -P (100 uCi, batch no. 68) : Amersham,

England.

## 3. Antiserum and Standards

Rabbit antiserum to hCG (R13,PoolD ) : NIH,USA.

Rhesus pituitary LH reference preparation

( NICHD-rhLH or WP-XV-20 ) : NIH,USA.

Rabbit anti-hTSH serum ( Lot NO.4870) : Baxter,Travenol,  
USA.

hTSH standards ( Lot NO. 4869 , calibrated with Medical

Research council, WHO human pituitary TSH 68/38 )  
: Baxter, Travenol  
USA.

Rabbit anti-T4 serum coated tubes : Baxter Travenol,  
USA.

T4 serum standard ( Lot No.4461 ) : Baxter Travenol,  
USA.

Sheep anti-TBG serum (Lot No.5148 ) : Baxter Travenol,  
USA.

hTBG standard ( Lot No. 5659 ) : Baxter Travenol,  
USA.

Rabbit anti-hPRL serum ( Lot No. 1109 ) : DPC,USA.

hPRL standard ( Lot No. 6033,WHO second IRP 83/562 )  
: DPC,USA.

Rabbit anti-hT4 serum ( Lot No. 710 ) : DPC,USA.

hT4 standard ( Lot No. 7033 ) : DPC,USA.

Rabbit anti-hT3 serum ( Lot No. 1029) : DPC,USA.

hT3 standard ( Lot No. 5042 ) : DPC,USA.

E<sub>2</sub> antiserum ( Lot K. 158330 ) : WHO Program

E<sub>2</sub> standard ( Lot K. 079610 ) : WHO Program

P antiserum ( Lot K. 873610 ) : WHO Program

P standards ( Lot K. 079410 ) : WHO Program

#### 4. Miscellaneous

N R S ( K 478410 ) : WHO Program

Donkey anti-Rabbit-r-globulin (K 288210) : WHO Program

Goat anti-Rabbit-r-globulin : DPC,USA.

Goat anti-Rabbit-r-globulin ( for TSH assay)

: Baxter, Travenol, USA.

## Appendix II

### Instruments

Balances : Sartorius 2004 MP, E2000D USA.

Centrifugator ( Dynac II ) : Clay Adams, USA.

Refrigerated Centrifugator : Mistral 3000, MSE, England.

Foam decanting rack : DPC, USA.

Magnetic stirrer and spin bar

: Nuova II Sybron / Thermolyne

: Framo-Geratetechnik M 22/1 Germany

Micropipettes ( Separated volumns of 10,20,50,100,200,250,500 and  
1000ul

: Eppendorf, Germany.

Repetitive pipettings ( Multipette<sup>R</sup> model 4780 )

: Eppendorf, Germany.

Syringse repetitive pipetting dispenser model 8100

: Nichiryo, Japan.

Adjustable micropipette ( 10ul-100ul and 500ul-1000ul )

: Eppendorf, Germany.

Dispenser 511 : Socorex Switzerland.

Dispenser (Zippette) : Jencons ( Scientific ) LTD.,  
England.

Microsyringse ( 5,15ul ) : SGE, Australia.

pH-meter : Orion Research, USA.

Beta-counter model 1214 : LKB Wallac, Finland

Gamma-counter model 1270,1270 rack gammaII,1280  
 :LKB Wallac, Finland.

Heating Cabinets ( series FE )  
 : WTB Binder, Germany.

Water bath : GFL, USA.

Refrigerator ( - 4<sup>o</sup>C ) : Electrolux,USA.

Refrigerator ( -20<sup>o</sup>C ) : MAK, Thailand.

Refrigerator ( -40<sup>o</sup>C ) : Vestfrost, USA.

Stop-watch clock : Heuer, Germany.

Ultrasonic cleanser : Metter Electronics, USA.  
 : Branson Cleaning Equipment  
 Company,USA.

Disposable plain 12x75 mm polystyrene tubes  
 :Elkay, USA.

Disposable plain 10x75 mm polystyrene tubes  
 : Nunc, Denmark.

Disposable microfuge tubes : Elkay,USA.

Disposable Volumetric pipette ( 10ml )  
 : Costar, USA.

Survey meter ( model SML-2 ) : Technical Association,  
 CA, USA.

### Appendix III

#### 1. Preparations of steroid hormone assay buffers

##### Steroid assay buffer ( S )

This buffer(s) is used as the diluent for all reagents in the steroid assays. 1.0 gm of gelatin was

dissolves in warm distilled water 300 ml completely, then added the chemicals as below :

2.70g Sodium dihydrogen phosphate monohydrate (  $\text{NaH}_2\text{PO}_4 \cdot \text{H}_2\text{O}$ , MW 137.99 )

14.50g Disodium hydrogen phosphate (  $\text{Na}_2\text{HPO}_4 \cdot 2\text{H}_2\text{O}$ , MW178 )

8.80g Sodium chloride (  $\text{NaCl}$  )

0.10g Thiomersal ( merthiolate )

The solution was added up to 1 litre with distilled water, mixed until the chemicals dissolved absolutely and then checked the pH, and adjusted to be ranging 7.2-7.4. This steriod buffer should be stored and stable for up to 1 month at 4°C.

#### Charcoal suspension

0.0625 gm of dextran was dissolved in 100 ml of assay buffer (BS) completely, then added activated charcoal 0.625gm and shaken vigorously by magnetic stirrer for 30 seconds. This suspension should be kept at 4°C and stable for up to 1 mounth . When using, it must be mixed throughly at 4°C in ice batch.

#### Counting solution

Toluene 3 litres, liquidfluor 128 ml and dioxane 600 ml were mixed homogeneously and stored in brown bottles.

## 2. Preparations of LH radioimmunoassay

### 2.1 Phosphate buffer (0.5 M)

#### -2.1.1. Monobasic sodium phosphate ( Stock solution A)

69.0 gm of  $\text{NaH}_2\text{PO}_4 \cdot \text{H}_2\text{O}$  was dissolved in 500 ml distilled water and then brought total volume to 1 litre with distilled water. This stock solution should be kept at  $4^\circ\text{C}$  and stable for 6 month.

#### -2.1.2. Dibasic sodium phosphate (Stock solution B)

89.0 gm of  $\text{Na}_2\text{HPO}_4 \cdot 2 \text{H}_2\text{O}$  was dissolved in 500 ml distilled water and brought total volume to 1 litre with distilled water. This stock solution should be stored at  $4^\circ\text{C}$ .

#### -2.1.3. Phosphate buffer ( 0.5 M, pH 7.5)

Both stock solution A (100 ml) and stock solution B ( 200 ml) were mixed and then adjusted the pH. This buffer should be stored at  $4^\circ\text{C}$ .

### 2.2 Phosphate buffer saline ( PBS, 0.01 M phosphate, 0.14 M NaCl, pH 7.0 with 1: 10,000 merthiolate )

143.0 gm of NaCl was dissolved in 500 ml distilled water and then added 150 ml of 0.5 M monobasic sodium phosphate. Both 200 ml of 0.5 M dibasic sodium phosphate and 200 gm of merthiolate were then added and mixed. 17.5 litres of distilled water was finally added, and then



adjusted pH to 7.0. This solution should be stored at 4 °C.

### 2.3 0.1% gel-PBS ( pH 7.0 )

1.0 gm of gelatin ( Merck ) was mixed with 300ml PBS and then dissolved on hot plate with constant stirring. Then, total volume was brought up to 1 litre with PBS and adjusted the pH. This buffer should be kept at 4°C.

### 2.4 EDTA-PBS (0.05M, pH7.0)

18.6 gm of EDTA was mixed with 800 ml PBS and dissolved on hot plate with constant stirring. Total volume was brought up to 1 litre with PBS and adjusted the pH to 7.0. This solution should be stored at 4°C.

### 2.5 1:400 NRS in 0.05 M EDTA-PBS

2.5 ml of NRS was aliquoted and added to 1 litre of 0.05 M EDTA-PBS. This solution should be kept at 4°C.

### 2.6 Chloramine T ( 1mg/1ml )

20 mg of chloramine T was dissolved in 20 ml of 0.05 M phosphate buffer, pH 7.5. This solution must be fresh prepared before using.

### 2.7 Sodium disulfite ( 2mg/ml )

10 mg of sodium disulfite was dissolved in 5 ml of 0.05 M phosphate buffer, pH 7.5. Similar to chloramine T

solution, it must be prepared before using.

#### Appendix IV

##### Preparation of hormone free serum ( HFS )

Hormone free serum ( HFS ) was used as diluent adjusting the high quality control pool serum and prepared following the North East Thames Region Immunoassay Unit (NETRIA).

A column (50 ml) was made using the disposable syringe (50 ml) and filled with glass wool at the bottom of column with covered filter paper (Whatman no.4) and celite (fig 55 ). Charcoal and celite (4:1) were mixed homogenously in 25 ml distilled water and then packed, eluted with 5 ml distilled water. After a column was settled, 50 ml of cynomolgus pooled serum adding  $^{125}\text{I-T}_4$  (~2000 cpm/ml) was then filtrated through this column. Void volume was collected. Subsequently, monkey column eluate was tested by  $(\text{NH}_4)_2\text{SO}_4$  salt determining the protein in serum and then collected as hormone free serum. From this method, 98-99% of hormone free serum obtained was monitored by  $^{125}\text{I-T}_4$ .

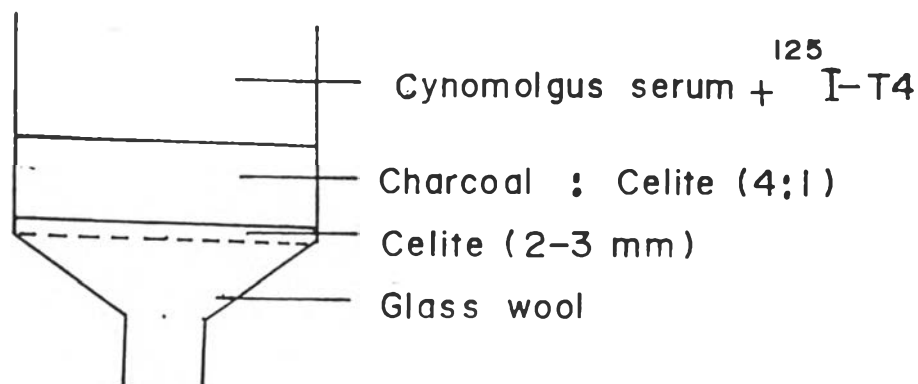


Fig 55. Illustrating preparation of hormone free serum column.

Appendix V

The precision profiles of each hormone assay were represented.

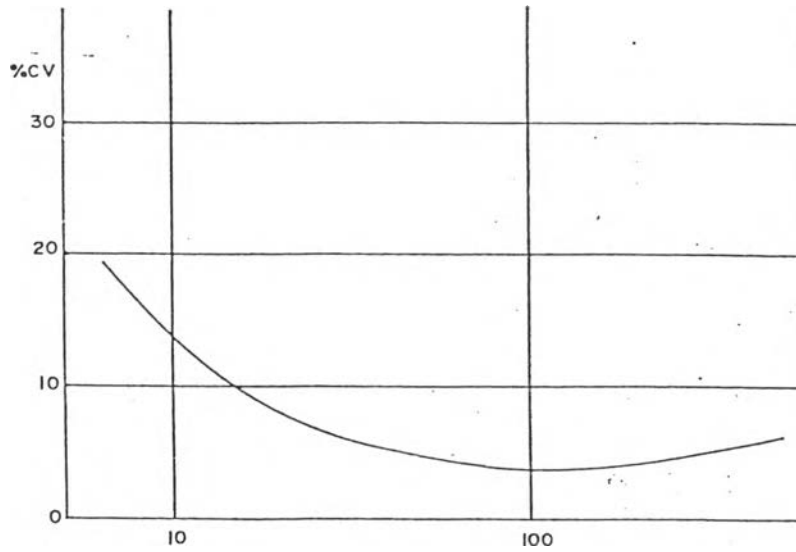


Fig 56. The precision profile of T3 assay . Plot shows % CV against dose for singletons (the precision of each tube).

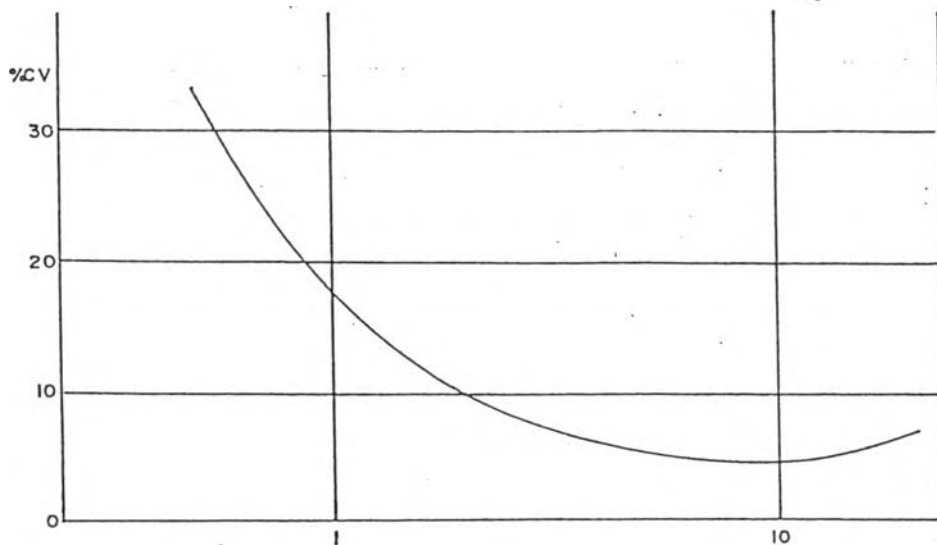


Fig 57. The precision profile of T4 assay. Plot shows % CV against dose for singletons (the precision of each tube).

Appendix V

The precision profiles of each hormone assay were represented.

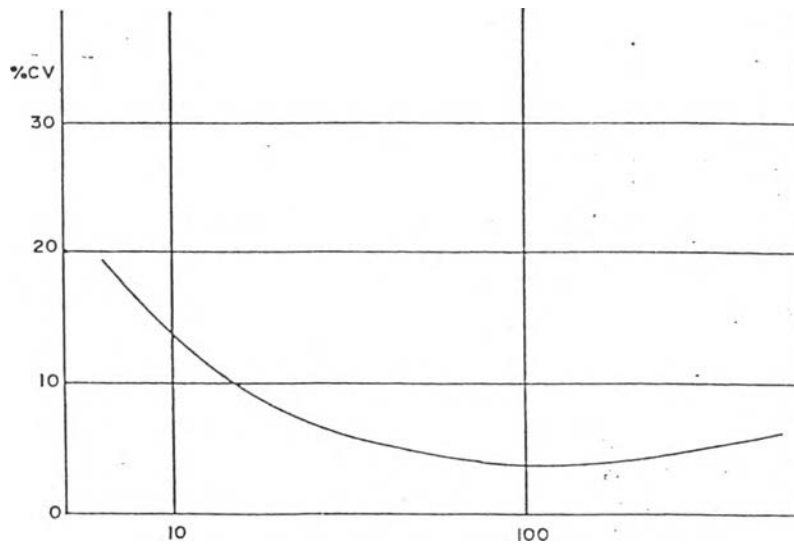


Fig 56. The precision profile of T3 assay . Plot shows % CV against dose for singletons (the precision of each tube).

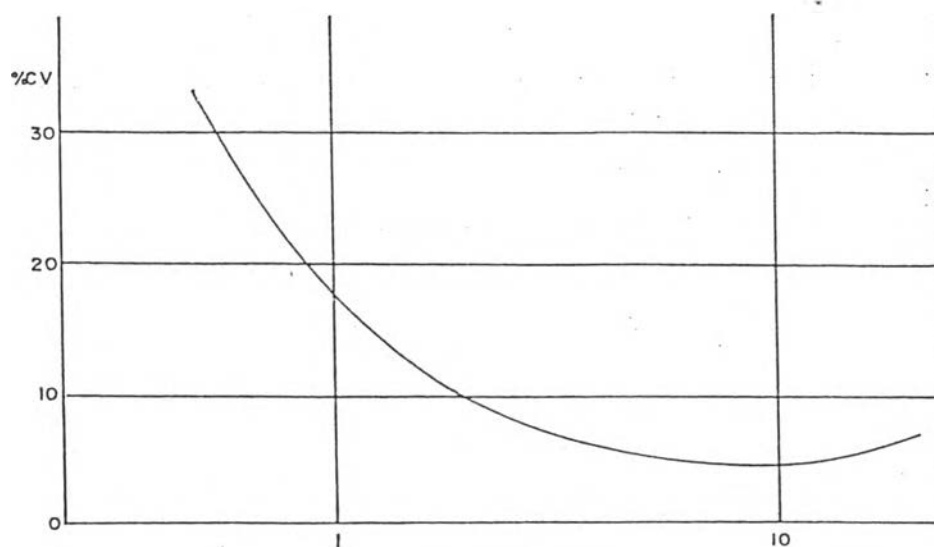


Fig 57. The precision profile of T4 assay. Plot shows % CV against dose for singletons (the precision of each tube).

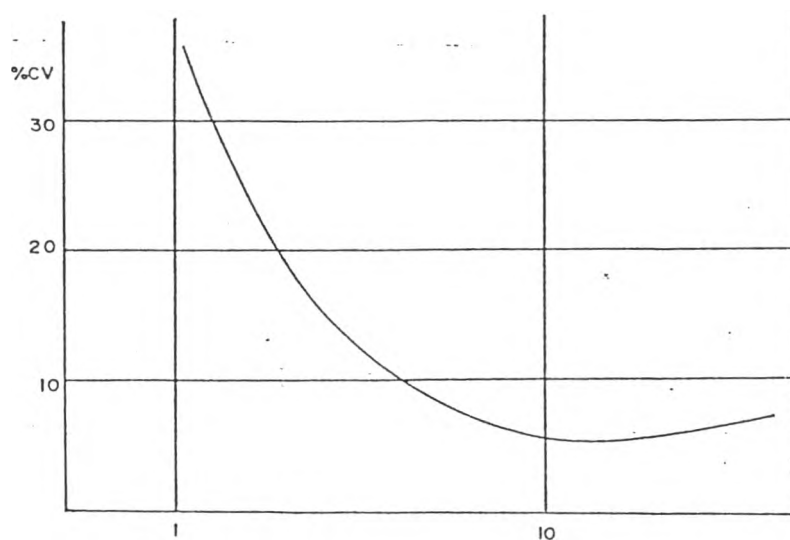


Fig 58. The precision profile of TSH assay. Plot shows % CV against dose for singletons (the precision of each tube).

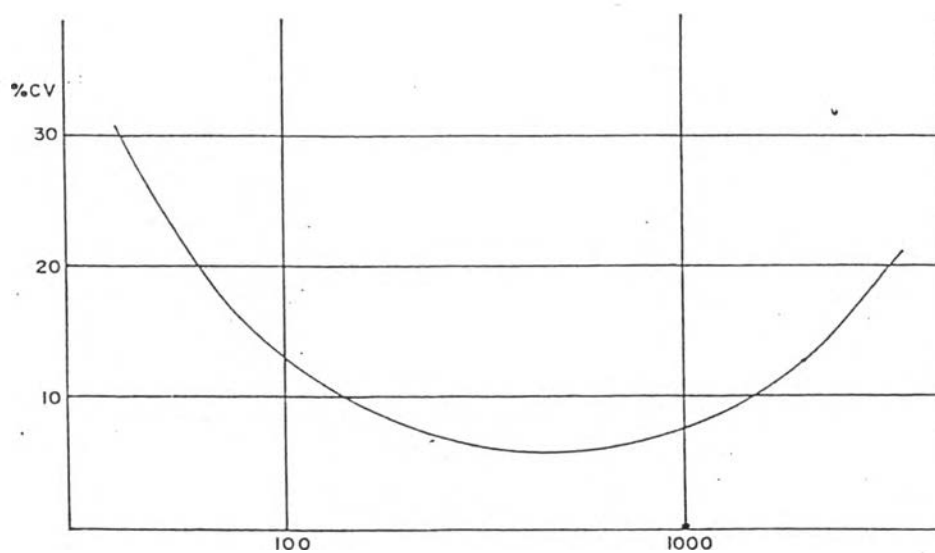


Fig 59. The precision profile of PRL assay. Plot shows % CV against dose for singletons (the precision of each tube).

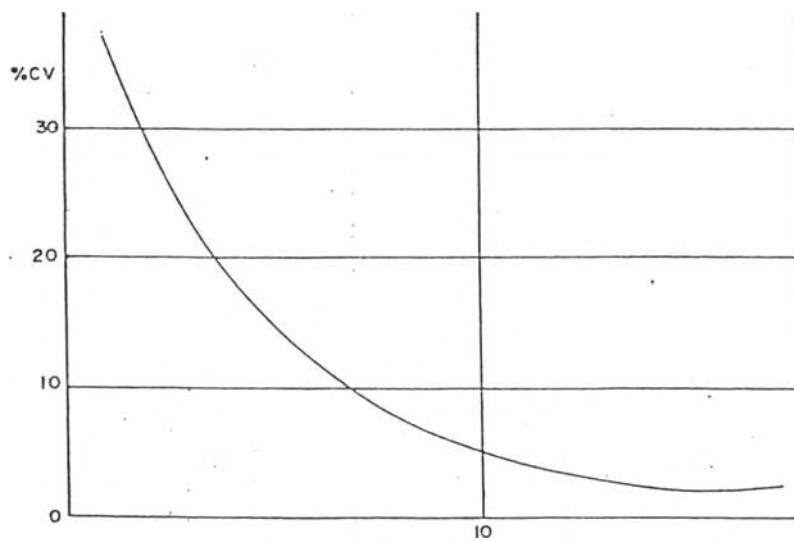


Fig 60. The precision profile of TBG assay. Plot shows % CV against dose for singletons (the precision of each tube).

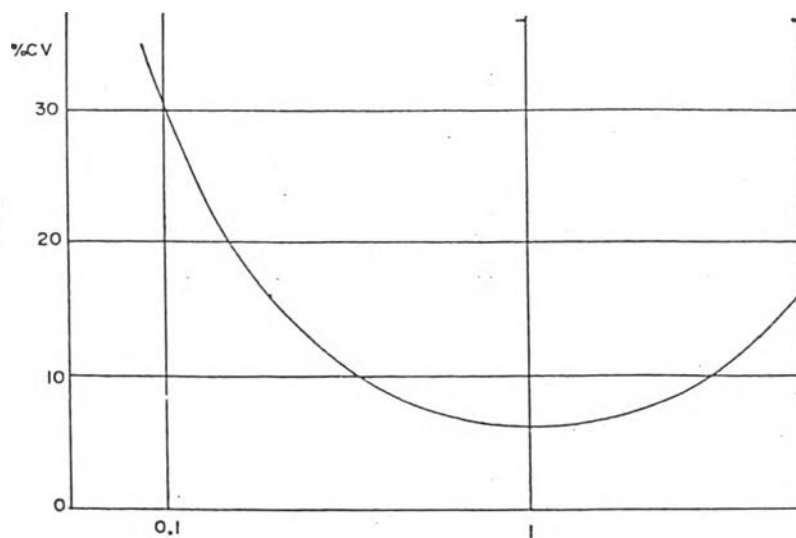


Fig 61. The precision profile of fT4 assay. Plot shows % CV against dose for singletons (the precision of each tube).

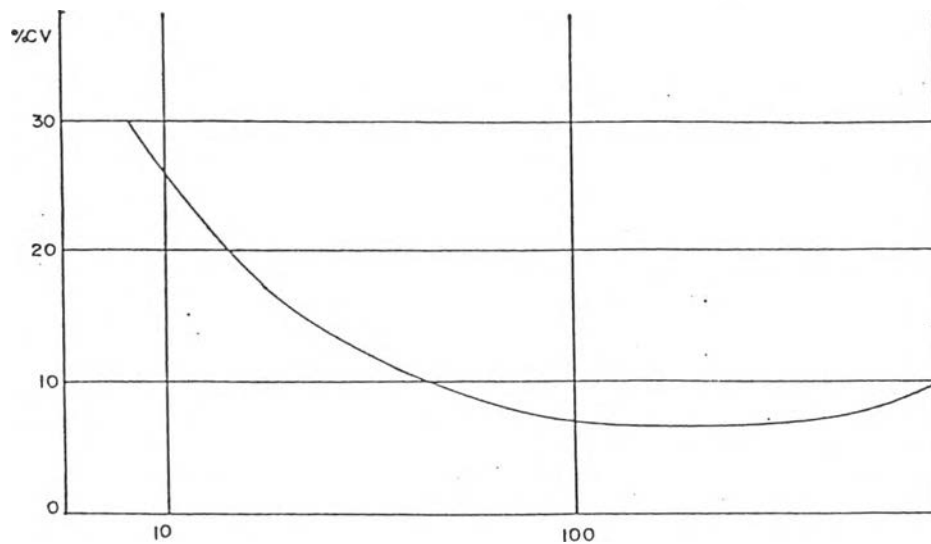


Fig 62. The precision profile of E<sub>2</sub> assay. Plot shows % CV against dose for singletons (the precision of each tube).

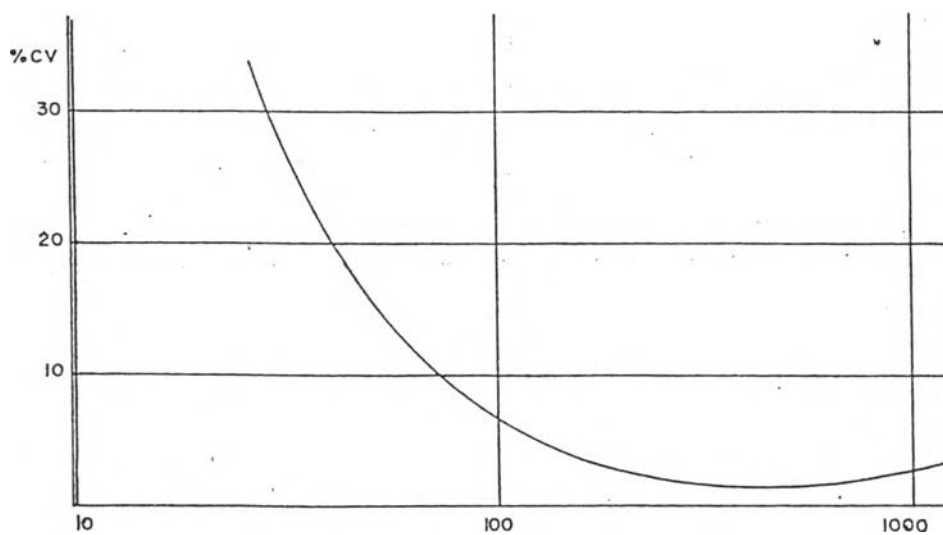


Fig 63. The precision profile of P assay. Plot shows % CV against dose for singletons (the precision of each tube).



## BIOGRAPHY

Miss Kesorn Suwanprasert was born on 25th June, 1958 at Chiangmai. She received her Bachelor in Nursing from Buddhachinaraj Nursing College, Phitsanulok in 1978 and Master Degree in Medical Physiology from Inter-Department of Physiology, Chulalongkorn University in 1986. At present, she is the lecturer of physiology, Faculty of Medicine, Thammasart University.