
BIOGRAPHICAL SKETCH

NAME Plant, Tony M.	POSITION TITLE Professor of Obstetrics, Gynecology and Reproductive Sciences, and Cell Biology and Physiology		
eRA COMMONS USER NAME TONYPLANT			
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	MM/YY	FIELD OF STUDY
London University, UK	B.Sc.	1966	Physiology
London University, UK	Ph.D.	1971	Physiology
University of Pittsburgh	Post-doc	1974-1978	Reproductive Endocrinol

A. Personal Statement

I have extensive experience at training postdoctoral scholars in my laboratory, I have served previously as Director of a T32 training grant, and I am currently a member of the steering committee for both the BIRCWH and WHR program administered by my Department.

B. Positions and Honors

Positions and Employment

1969-1972	Research Assistant, Institute of Psychiatry, University of London, London, UK
1972-1974	Research Associate, Emory University School of Medicine, Atlanta, GA
1974-1976	Ford Foundation Postdoctoral Research Fellow (Laboratory of E. Knobil), Department of Physiology, University of Pittsburgh SOM, Pittsburgh, PA
1976-1978	NICHD Postdoctoral Research Fellow (Laboratory of E. Knobil), Department of Physiology, University of Pittsburgh SOM, Pittsburgh, PA
1978-1984	Assistant Professor of Physiology, University of Pittsburgh SOM, Pittsburgh, PA
1984-1989	Associate Professor of Physiology, University of Pittsburgh SOM, Pittsburgh, PA
1985-2000	Director, Center for Research in Reproductive Physiology, University of Pittsburgh SOM, Pittsburgh, PA
1987-Present	Director, Postdoctoral Training Program in Reproductive Physiology, University of Pittsburgh SOM, Pittsburgh, PA
1989-1993	Professor of Physiology, University of Pittsburgh SOM, Pittsburgh, PA
1993-Present	Professor of Cell Biology and Physiology, University of Pittsburgh SOM, Pittsburgh, PA
2000-Present	Director, Specialized Cooperative Centers Program in Reproduction Research, University of Pittsburgh, Pittsburgh, PA
2001-2009	Co-Director, Cooperative Reproductive Science Research Centers at Minority Institutions, Morehouse SOM, Atlanta, GA
2002-Present	Professor of Obstetrics, Gynecology and Reproductive Sciences, University of Pittsburgh SOM, Pittsburgh, PA

Other Experience and Professional Memberships

1989-1992	Editorial Board, Endocrinology
1989-1993	Member, Reproductive Endocrinology Study Section, NIH
1990-1995	Editorial Board, Biology of Reproduction
2000-2004	Treasurer, International Neuroendocrine Federation
2001-2004	Member, Publications Committee, The Endocrine Society
2001-Present	Member, Editorial Board, Reproduction
2002-2006	Secretary General, International Neuroendocrine Federation
2004-Present	Member, Editorial Board, Frontiers in Neuroendocrinology
2006-Present	Member, Editorial Board, Endocrine
2007-2011	President, International Neuroendocrine Federation (INF)
2007-2009	Chair, Steering Committee, Specialized Cooperative Centers Program in Reproduction and Infertility Research

Honors

1991	Serono Lecturer, American Society of Andrology
2007	Elected Foreign Fellow, Pakistan Academy of Sciences
2010	Dozor Visiting Scholar, Ben-Gurion University of the Negev
2010	Elected Honorary Member, Polish Neuroendocrine Society

C. Publications from 2003 - 2013

1. Ramaswamy S, Marshall GR, Pohl CR, Friedman RL and **Plant TM**. Inhibitory and stimulatory regulation of testicular inhibin B secretion by luteinizing hormone and follicle-stimulating hormone, respectively, in the rhesus monkey (*Macaca mulatta*). *Endocrinology* 144:1175-1185, 2003. PMID12639898
2. Shahab M, Balasubramaniam A, Sahu A and **Plant TM**. Central nervous system receptors involved in mediating the inhibitory action of neuropeptide Y on luteinizing hormone secretion in the male rhesus monkey (*Macaca mulatta*). *J Neuroendocrinol* 15:965-970, 2003. PMID12969241
3. Simorangkir DR, Marshall GR and **Plant TM**. Sertoli cell proliferation during prepubertal development in the rhesus monkey (*Macaca mulatta*) is maximal during infancy when gonadotropin secretion is robust. *J Clin Endocrinol Metab* 88:4984-4989, 2003. PMID14557484
4. Goldsmith LT, Weiss G, Palejwala S, **Plant TM**, Wojtczuk A, Lambert WC, Ammur N, Heller D, Skurnick JH, Edwards D and Cole DM. Relaxin regulation of endometrial structure and function in the rhesus monkey. *Proc Nat Acad Sci* 101:4685-4689, 2004. PMCID: PMC384807
5. Cunningham MJ, Shahab M, Grove KL, Scarlett JM, **Plant TM**, Cameron JL, Smith SM, Clifton DK and Steiner RA. Galanin-like peptide as a possible link between metabolism and reproduction in the macaque. *J Clin Endocrinol Metab* 89:1760-1766, 2004. PMID15070942
6. Barker-Gibb M, **Plant TM**, White C, Lee PA and Witchel SF. Genotype analysis of the neuropeptide Y (NPY) Y1 and NPY Y5 receptor genes in gonadotropin-releasing hormone-dependent precocious gonadarche. *Fertil Steril* 82:491-494, 2004. PMID15302312
7. Ramaswamy S, Pohl CR, Marshall GR and **Plant TM**. A switch from continuous to episodic testicular testosterone release in response to pulsatile LH stimulation in juvenile rhesus monkeys (*Macaca mulatta*). *J Endocrinol* 183:61-68, 2004. PMID15525574
8. Simorangkir DR, Ramaswamy S, Marshall GR and **Plant TM**. In the adult male rhesus monkey (*Macaca mulatta*), unilateral orchidectomy in the face of unchanging gonadotropin stimulation results in partial compensation of testosterone secretion by the remaining testis. *Endocrinology* 145:5115-5210, 2004. PMID15308611
9. Bernard DJ, Woodruff TK and **Plant TM**. Cloning of a novel inhibin alpha cDNA from rhesus monkey testis. *Reprod Biol Endocrinol* 2:71-81, 2004. PMID15471543
10. Fraser MO, Arslan M and **Plant TM**. Androgen and estrogen treatment, alone or in combination, differentially influences bone maturation and hypothalamic mechanisms that time puberty in the male rhesus monkey (*Macaca mulatta*). *Ped Res* 57:141-148, 2005. PMID15557106
11. Shahab M, Mastronardi C, Seminara SB, Crowley WF, Ojeda SR and **Plant TM**. Increased hypothalamic GPR54 signaling: a potential mechanism for initiation of puberty in primates. *Proc Natl Acad Sci USA* 102:2129-2134, 2005. PMID15684075, PMCID: PMC548549.
12. Bhat GK, **Plant TM** and Mann DR. Relationship between serum concentrations of leptin, soluble leptin receptor, testosterone and IGF-I, and growth during the first year of postnatal life in the male rhesus monkey, *Macaca mulatta*. *Eur J Endocrinol* 153:153-158, 2005. PMID15994757
13. Marshall GR, Ramaswamy S and **Plant TM**. Gonadotropin independent proliferation of the pale type A spermatogonia in the adult rhesus monkey (*Macaca mulatta*). *Biol Reprod* 73:222-229, 2005. PMID15758149
14. Shahab M, Cunningham MJ, Steiner RA and **Plant TM**. Galanin-like peptide elicits a robust discharge of growth hormone in the monkey (*Macaca mulatta*). *Neuroendocrinology* 81:254-258, 2005. PMID16113587
15. Simorangkir DR, Marshall GR, Ehmcke J, Schlatt S and **Plant TM**. Prepubertal expansion of dark and pale type A spermatogonia in the rhesus monkey (*Macaca mulatta*) results from proliferation during infantile and juvenile development in a relatively gonadotropin independent manner. *Biol Reprod* 73:1109-1115, 2005. PMID16079304
16. **Plant TM**, Ramaswamy S and DiPietro MJ. Repetitive activation of hypothalamic G protein-coupled receptor 54 with intravenous pulses of kisspeptin in the juvenile monkey (*Macaca mulatta*) elicits a sustained train of gonadotropin-releasing hormone discharges. *Endocrinology* 147:1007-1013, 2006. PMID16282350

17. Seminara SB, DiPietro MJ, Ramaswamy S, Crowley Jr. WF and **Plant TM**. Continuous human metastatin 45-54 infusion desensitizes G protein-coupled receptor 54-induced gonadotropin-releasing hormone release monitored indirectly in the juvenile male rhesus monkey (*Macaca mulatta*): A finding with therapeutic implications. *Endocrinology* 147:2122-2126, 2006. PMID16469799
18. Mann DR, Bhat GK, Stah CD, Pohl CR and **Plant TM**. Induction of a hypothyroid state during juvenile development delays pubertal reactivation of the neuroendocrine system governing luteinizing hormone secretion in the male rhesus monkey (*Macaca mulatta*). *J Neuroendocrinol* 18:662-671, 2006. PMID16879165
19. Hild SA, Marshall GR, Attardi BJ, Hess RA, Schlatt S, Simorangkir DR, Ramaswamy S, Koduri S, Reel JR and **Plant TM**. Development of *I*-CDB-4022 as a nonsteroidal male oral contraceptive: Induction and recovery from severe oligospermia in the adult male cynomolgus monkey (*Macaca fascicularis*). *Endocrinology* 148:1784-1796, 2007. PMID17218411
20. Shibata M, Friedman RL, Ramaswamy S and **Plant TM**. Evidence that down regulation of hypothalamic KiSS-1 expression is involved in the negative feedback action of testosterone to regulate LH secretion in the adult male rhesus monkey (*Macaca mulatta*). *J Neuroendocrinol* 19:432-438, 2007. PMID17504437
21. Ramaswamy S, Seminara SB, Pohl CR, DiPietro MJ, Crowley, Jr. WF and **Plant TM**. Effect of continuous intravenous administration of human metastatin 45-54 on the neuroendocrine activity of the hypothalamic-pituitary-testicular axis in the adult male rhesus monkey (*Macaca mulatta*). *Endocrinology* 148:3364-3370, 2007. PMID17412800
22. Mann DR, Bhat GK, Ramaswamy S, Stah CD and **Plant TM**. Regulation of circulating leptin and its soluble receptor during pubertal development in the male rhesus monkey (*Macaca mulatta*). *Endocrine* 31:125-129, 2007.
23. Ramaswamy S, Guerriero KA, Gibbs RB and **Plant TM**. Structural interactions between kisspeptin and GnRH neurons in the mediobasal hypothalamus of the male rhesus monkey (*Macaca mulatta*) as revealed by double immunofluorescence and confocal microscopy. *Endocrinology* 149: 4387-4395, 2008. PMCID: PMC2553371
24. **Plant TM**, Ramaswamy S, Bhat GK, Stah CD, Pohl CR and Mann DR. Effect of transient hypothyroidism during infancy on the postnatal ontogeny of luteinising hormone release in the agonadal male rhesus monkey (*Macaca mulatta*): implications for the timing of puberty in higher primates. *J Neuroendocrinol* 20:1203-1212, 2008.
25. Simorangkir DR, Ramaswamy S, Marshall GR, Pohl CR and **Plant TM**. A selective monotropic elevation of FSH, but not that of LH, amplifies the proliferation and differentiation of spermatogonia in the adult rhesus monkey (*Macaca mulatta*). *Hum Reprod* 24:1584-1595, 2009. PMCID: PMC2698325
26. Simorangkir DR, Marshall GR and **Plant TM**. A re-examination of proliferation and differentiation of type A spermatogonia in the adult rhesus monkey (*Macaca mulatta*). *Hum Reprod* 24:1596-1604, 2009. PMCID: PMC2698324
27. Hermann BP, Sukhwani M, Simorangkir DR, **Plant TM** and Orwig KE. Molecular dissection of the male germ cell lineage identifies putative spermatogonial stem cells in rhesus macaques. *Hum Reprod* 24:1704-1716, 2009. PMCID: PMC2698327
28. Albrecht ED, Lane MV, Marshall GR, Merchenthaler I, Simorangkir DR, Pohl CR, **Plant TM** and Pepe GJ. Estrogen promotes germ cell and seminiferous tubule development in the baboon fetal testis. *Biol Reprod* 2009; 81:406-414. PMCID: PMC2767192.
29. Ramaswamy S, Gibbs RB and **Plant TM**. Studies of the localisation of kisspeptin within the pituitary of the rhesus monkey (*Macaca mulatta*) and the effect of kisspeptin on the release of non-gonadotropic pituitary hormones. *J Neuroendocrinol* 2009; 21:795-804. PMCID: PMC2760459.
30. Ramaswamy S, Seminara SB, Ali B, Ciofi P, Amin NA and **Plant TM**. Neurokinin B stimulates GnRH release in the male monkey (*Macaca mulatta*) and is colocalized with kisspeptin in the arcuate nucleus. *Endocrinology* 2010; 151: 4494-4503. PMCID: PMC2940495.
31. Ramaswamy S, Seminara SB and **Plant TM**. Evidence from the agonadal juvenile male rhesus monkey (*Macaca mulatta*) for the view that the action of neurokinin B to trigger gonadotropin-releasing hormone release is upstream from the kisspeptin receptor. *Neuroendocrinology* 2011; 94:237-245. PMCID: PMC3238032.
32. Simpkins JW, Swenberg JA, Weiss N, Brusick D, Eldridge JC, Stevens JT, Handa RJ, Hovey RC, **Plant TM**, Pastoor TP and Breckenridge CB. Atrazine and breast cancer. A framework assessment of the toxicological and epidemiological evidence. *Toxicol Sci* 2011; 123:441-459. PMCID: PMC3179673.

33. Mattison DR, **Plant TM**, Lin H-M, Chen H-C, Chen JJ, Twaddle NC, Doerge D, Slikker, Jr. W, Patton RE, Hotchkiss CE, Callicott RJ, Schrader SM, Turner TW, Kesner JS, Vitiello B, Petibone DM, Morris SM. Pubertal delay in male non-human primates (*Macaca mulatta*) treated with methylphenidate. Proc Natl Acad Sci, USA 2011; 108:16301-16306. PMID: PMC3182701.
34. Conley A, **Plant TM**, Abbott D, Moeller B and Stanley S. Adrenal androgen concentrations increase during infancy in male rhesus macaques (*Macaca mulatta*). Am J Physiol Endocrinol Metab 2011; 301:E1229-1235. PMID: PMC3274962
35. Simorangkir DR, Ramaswamy S, Marshall GR, Roslund R and **Plant TM**. Sertoli cell differentiation in rhesus monkey (*Macaca mulatta*) is an early event in puberty and precedes attainment of the adult complement of undifferentiated spermatogonia. Reproduction 2012; 143:513-522. PMID: 22232743.
36. Majumdar SS, Sarda K, Bhattacharya I and **Plant TM**. Insufficient androgen and FSH signaling may be responsible for the azoospermia of the infantile primate testes despite exposure to an adult-like hormonal milieu. Hum Reprod 2012; 27:2515-2525. PMID: PMC3398678.
37. Alcin E, Sahu A, Ramaswamy S, Hutz ED, Keen KL, Terasawa E, Bethea CL, **Plant TM**. Ovarian regulation of kisspeptin neurons in the arcuate nucleus of the rhesus monkey (*Macaca mulatta*). J Neuroendocrinol 2013; 25:488-496. PMID: 23331967; PMID: PMC3928808.
38. Ramaswamy S, Dwarki K, Ali B, Gibbs RB, **Plant TM**. The decline in pulsatile GnRH release, as reflected by circulating LH concentrations, during the infant-juvenile transition in the gonadal male rhesus monkey (*Macaca mulatta*) is associated with a reduction in kisspeptin content of KNDy neurons of the arcuate nucleus in the hypothalamus. Endocrinology 2013; 154:1845-1853. PMID: PMC3628021.
39. Ramaswamy S, Razack BS, Roslund RM, Suzuki H, Marshall Gr, Rajkovic A, **Plant TM**. Spermatogonial SOHLH1 nucleocytoplasmic shuttling associates with initiation of spermatogenesis in the rhesus monkey (*Macaca mulatta*). Mol Hum Reprod 2013 Dec 26. (Epub ahead of print). PMID: 24324034.

D. Research Support

Ongoing Research Support

NIH R01 HD072189-01 Plant (PI) 04/06/12-01/31/17
 Molecular Bases Committing Primate Spermatogonia to a Pathway of Differentiation
 The purpose of this project is to examine the cellular and molecular mechanisms and signals that initiate and maintain spermatogonial differentiation in the rhesus monkey, a representative higher primate.
 Role: PI

Completed Research Support

NIH 2U54 HD08610-35 Plant (PI) 04/01/06-03/31/12
 Specialized Cooperative Centers Program in Reproduction Research: Physiology and Pathophysiology of the Primate Gonad
 Project II: Developmental determinants of spermatogenic ceiling in the testes of adult rhesus monkeys.
 The P.I.'s project examines the cell biology and developmental mechanisms that dictate spermatogonial ceiling in the adult monkey testis.
 Role: PI

NIH 2R01 HD13254-26 Plant (PI) 07/01/05-06/30/12
 Molecular and Structural Bases of Hypothalamic Puberty
 The purpose of this project is to investigate the nature of the neurobiological trigger that initiates the onset of puberty in male primates.
 Role: PI

U54 HD41749 (Mann, P.I.) 10/01/01-07/31/09
 NIH Cooperative Reproductive Science Research Centers at Minority Institutions
 Development and Differentiation in Reproductive Axis
 The purpose of this project is to examine the role of thyroid hormone in the ontogeny of pulsatile GnRH release in the male rhesus monkey.
 Role: Co-Investigator