BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME	POSITION TITLE
Donna Seto-Young, Ph.D.	**Director, Endocrinology Research Laboratory** **Associate Professor of Medicine, Albert Einstein College of Medicine**

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.*)

INSTITUTION AND LOCATION	DEGREE (*if applicable*)	YEAR(s)	FIELD OF STUDY
McGill University, Montreal, Canada	**BSc**	**1976**	**Microbiol/Immuno**
Cambridge University, Cambridge, United Kingdom	**PhD**	**1979**	**Biochemistry**

Post-graduate training:

1979-1981 **Postdoctoral Research Associate**, University of Maryland, School of Medicine, Dept. of Biological Chemistry, Baltimore
1981-1983 **Research Associate**, Harvard Medical School, Dept. of Physiology, Boston
1983-1984 **NSERC Fellow**, National Research Council of Canada, Biological Sciences, Ottawa, Canada

Professional employment and Hospital appointments:

1984-1988 **Research Assistant Professor,** Mount Sinai Medical School, Dept. of Biochemistry, New York City
1988-1998 **Senior Research Scientist,** Public Health Research Institute, New York City
1998-2000 **Senior Research Associate**, The Rockefeller University, New York City
2000-present **Director of the Endocrinology Research Laboratory,** Beth Israel Medical Center, New York City
2002-2007 **Assistant Professor of Medicine, Albert Einstein College of Medicine,** New York City
2007-present **Associate Professor of Medicine, Albert Einstein College of Medicine,** New York City

Awards and Honors:

1 Natural Science and Engineering Research Council Fellow of Canada (1983-1984)
2 Canadian National Scholarship for training Bacterial Genetic in Coldspring Harbor Laboratory (1984)
3 Singer/Hellman Award at Beth Israel Medical Center (2001-2002)
4 Pharmacia Endocrine Care Corporation (2003-2004)
5 Glaxo-SmithKline, Inc. (2004-2006)
6 Gerald J. Friedman Foundation (2003-present)
7 Empire Clinical Research Investigator Program (2005-present)
8 American Chinese Medical Society and Chinese American Independent Practice Association (2005-present)
9 Reviewer for manuscripts for Journal of Clinical Endocrinology and Metabolism
10 Reviewer for manuscripts for PPAR Research.
11 Reviewer for Fertility and Sterility
12 External reviews for the China/Canada Joint Health Research Initiative
13 Reviewer for manuscripts American Society of Physiology

Invited Lectures:

1 11th International Symposium for Immunology of Reproduction in Varna, Bulgaria, June 2006
2 International Symposium on PCOS in Harbin China, August, 2006
3 The 5th Anniversary Congress of International Drug Discovery Science and Technology in Xi'an China, November 2007
4 The 7th Anniversary Congress of International Drug Discovery Science and Technology in Shanghai, October 2009
5 The 8th Anniversary Congress of International Drug Discovery Science and Technology in Beiging, October 2010

Research Grant Support:

1 Public Health Service Research Grant GM28454 and NIH grant DMB8504395, co-investigator (1984-1988): Study of Na+/H+ antiportor and membrane lipid composition in alkalophilic bacillus.
2 Office of Naval Research Grant N00014-89-J-1792, co-investigator (1988-92): Study of H+-ATPase from *Saccharomyces cerevisiae.*
3 NIH38225, co-investigator (1992-1998): Study of H+-ATPase from *Saccharomyces cerevisia.*
4 NIH DK-517067, co-investigator (1998-2000): Study of cystic fibrosis transmembrance conductance regulator.
5 Singer/Hellman Research Grant, Co-investigator (2001-2002): Role of insulin and insulin-like growth factors in ovarian function.
6 Endocrine Division Research Fund (Beth Israel Medical Center): Role of insulin and insulin-like growth factors in ovarian function.
7 Pharmacia Endocrine Care Corporation (2003-2004): Co-Principal Investigator: Role of thiazolidinediones in the human ovary.
8 Gerald J. Friedman Foundation (2003-2004): Co-Principal Investigator: Role of thiazolidinediones in the human ovary.
9 Glaxo-SmithKline, Inc. (2004-2006): Co-Investigator: The effect of thiazolidinediones on inflammatory markers and outcomes in patients undergoing coronary artery bypass graft surgery.
10 Gerald J. Friedman Foundation (2003-present): Co-Principal Investigator: Role of insulin and insulin-like growth factors in the human ovary.
11 American Chinese Medical Society and Chinese American Independent Practice Association (2005-2006): Principal Investigator: Polycystic ovary syndrome: basic mechanisms and clinical strategies.
12 Empire Clinical Research Investigator Program, New York State (2005-2007): Principal Investigator: Polycystic ovary syndrome: basic mechanisms and clinical strategies (basic research part).
13 American Chinese Medical Society and Chinese American Independent Practice Association (2006-2007): Principal Investigator: The role of peroxisome proliferator activated receptor-γ (PPAR-γ) and insulin signaling pathways in the human ovary: basic mechanisms and clinical implications for polycystic ovary syndrome (PCOS).
14 Empire Clinical Research Investigator Program, New York State (2007-present): Principal Investigator: Role of exenatide in human ovary (basic research part).
15 Empire Clinical Research Investigator Program, New York State (2008-present): Principal Investigator: Role of thiazolidinediones on bone metabolism.
16 American Chinese Medical Society and Chinese American Independent Practice Association (2009-2010): Principal Investigator: Genetic markers for increased risk of gestational diabetes in Chinese-Americans

Original Communications in Peer-Reviewed Journals:

1. **Seto-Young D,** Avtanski D, Parikh G, Strizhevsky M, Rosenwaks Z, Poretsky L. (2010) Rosiglitazone or pioglitazone inhibit aromatase activity in human granulosa cells by interfering with androgen binding to aromatase and altering the enzyme kinetic properties. *Hormone and Metabolic Research*, submitted.
2. **Seto-Young D,** Avtanski D, Varadinova M, Park A, Suwandhi P, Parikh G, Poretsky L. (2010) Differential Role of MAPK-Erk1/2 and MAPK-p38 in insulin-like growth factor-I (IGF-I) signaling pathways for progesterone production in human ovarian cells. *Hormone and Metabolic Research*, submitted.
3. Parikh G, Varadinova M, Suwandhi P, Araki T, Seth A, Feng Y, Rosenwaks Z, Poretsky L, **Seto-Young D.** (2010) Vitamin D regulates human ovarian steroidogenesis and IGFBP-1 production. *Hormone and Metabolic Research* 42:754-757.
4. Grover GJ, Marone PA, Koetzner L, **Seto-Young, D.** (2008) Energetic signaling in the control of mitochondrial F_1F_0 synthase activity in health and disease. *Int J Biochem Cell Biol. 40(12):2698-2701*
5. **Seto-Young D,** Avtanski D, Strizhevsky M, Parikh G, Patel P, Kaplun J, Holcomb K, Rosenwaks Z, Poretsky L (2007) Interactions among Peroxisome Proliferator Activated Receptor-g, Insulin Signaling Pathways and Steroidogenic Acute Regulatory Protein in Human Ovarian Cells. *J Clin Endocrinol Metab 92:2232-2239.*
6. **Seto-Young D,** Paliou M, Schlosser, Parini P, Avtanski D, Park A, Holcomb K, Chang P, Poretsky L. (2005) Thiazolidinedione action in the human ovary: direct effects on steroidogenesis and insulin-like growth factor binding protein-1 (IGFBP-1) production. *J. Clin Endocrinol Metab. 90(11):6099-6105.*
7. **Seto-Young D**, Leonardi O, Holcomb K, Park A, Salehi, M, Chang P, Yih Melissa, Rosenwaks Z, Poretsky L. (2005) Hormonally active non-transformed human ovarian cell culture from oophorectomy specimens: methods of development and characterization. *Hormone Research*. 64(5):238-247.
8. Csanady L, **Seto-Young D,** Chan KW, Cenciarelli C, Benjamin B, Jun Qin, A, McLachliln DT, Krutchinsky A, Chait B T, Nairn AC, Gadsby D. (2005) Preferential Phosphorylation of R-domain Serine 768 Dampens Activation of CFTR Channels by PKA. *J Gen Physiol* 125:171-186

9. Poretsky L, **Seto-Young D,** Shrestha A, Dhillon S, Mirjany M, Liu, H-C, Yih M, Rosenwks Z. (2001) Phosphatidyl-inositol-3 (PI-3)-kinase-independent insulin action pathway(s) in the human ovary. *J Clin Endocrinol Metab*. 86: 3115-3119.
10. Csanády L, Chan KW, **Seto-Young D**, Kopsco DC, Nairn AC, D.C. Gadsby. (2000). Severed channels probe regulation of gating of CFTR by its cytoplasmic domains. *J. Gen. Phys*. 116:477-500.
11. Monk BC, Mason AB, Abramochkin G, Haber JE, **Seto-Young D**, Perlin DS (1995). The yeast plasma membrane proton pumping ATPase in a viable antifungal target. Effects of the cysteine-modifying reagent omeprazole. *Biochim Biophys Acta* 1239:81-90.
12. Harris SL, Na S, Zhu X, **Seto-Young D**, Perlin DS, Teem JH, Haber JE (1994). Dominant lethal mutations in the plasma membrane H+-ATPase gene of *Saccharomyces cerevisiae*. *Proc Natl Acad Sci* 91:10531-10535.
13. Monk BC, Feng W, Marshall C, **Seto-Young D**, Na S, Haber JE, Perlin DS (1994). Modeling a conformational sensitive region of the membrane sector of the fungal plasma membrane proton pump. *J Bioenerg Biomembr* 26:101-115.
14. Perlin DS, **Seto-Young D**, Monk BC, Harris SL, Na S, Haber JE (1994). Genetic approaches to electrogenic proton transport by a yeast H+-ATPase Biomembrane Electrochemistry (M Blank and I Vodyanoy, eds.) *Advances in Chemistry Series*, 235:315-328.
15. Perlin DS, Harris SL, Monk BC, **Seto-Young D**, Na S, Anand S, Haber JE (1992). Genetic probing of the yeast plasma membrane H+-ATPase. *Acta Physiol Scand* 146:183-192.
16. **Seto-Young D,** Zajac J, Liu, H-C, Rosenwaks Z, Poretsky L. (2003) The Role of Mitogen activated protein kinase (MAPK) in Insulin and IGF-I Signaling Cascades for Progesterone and IGFBP-1 Production in Human Granulosa Cells granulosa cells. *J Clin Endocrinol Metab* 88(7) 3385-3391
17. Chan KW, Csanády L, **Seto-Young D,** Nairn AC, Gadsby DC (2000). Severed molecules functionally define the boundaries of CFTR's N-terminal nucleotide binding domain. *J. Gen. Phys*., 116:163-180.
18. **Seto-Young D**, Bandell M, Hall M, Perlin DS (1998). Differential exposure of surface epitopes in the ß-strand region of LOOP1 of the yeast H^+-ATPase during catalysis. *J. Biol. Chem*. 273:18282-18287.
19. **Seto-Young D,** Monk BC, Mason AB, Perlin DS (1997). Exploring an antifungal target region in the plasma membrane H+-ATPase. *Biochim Biophys Acta* 1326:249-256.
20. Bandell M, Hall MJ, Wang G, **Seto-Young D**, Perlin DS (1996). Probing the cytoplasmic LOOP1 domain of the yeast plasma membrane H+-ATPase by targeted factor Xa proteolysis. *Biochim Biophys Acta* 1280:81-90.
21. **Seto-Young D**, Hall MJ, Na S, Haber JE, Perlin DS (1996). Genetic probing of the first and second transmembrane helices of the plasma membrane H+-ATPase from *Saccharomyces cerevisiae*. *J Biol Chem* 271:581-587.
22. Anand S, **Seto-Young D**, Perlin DS, Haber JE (1995). Mutations of G158 and their second-site revertants in the plasma membrane H+-ATPase gene in *Saccharomyces cerevisiae*. *Biochim Biophys Acta* 1234:127-132.
23. **Seto-Young D**, Na S, Monk BC, Haber JE, Perlin DS (1994). Mutational analysis of the first extracellular loop region of the H+-ATPase from *Saccharomyces cerevisiae*. *J Biol Chem* 269:23988-23995.
24. Na S, **Seto-Young D**, Wang G, Perlin DS, Haber JE (1993). Characterization of yeast plasma membrane H+-ATPase mutant pmal-A135V and its revertants. *J Biol Chem* 268:11792-117978.
25. **Seto-Young D**, Monk BC, Perlin, DS (1992). Assessing hydrophobic regions of the plasma membrane H+-ATPase from *Saccharomyces cerevisiae*. *Biochem Biophys Acta* 1102: 213-219.
26. Harris SL, Perlin DS, **Seto-Young D**, Haber JE (1991). Evidence for coupling between membrane and cytoplasmic domains of the yeast plasma membrane H+-ATPase. Analysis of intragenic revertants of pmal-105. *J Biol Chem* 266:24439-24445.
27. **Seto-Young D**, Perlin DS (1991). Effect of membrane voltage on the plasma membrane H+-ATPase of *Saccharomyces cerevisiae*. *J Biol Chem* 266:1383-1389.
28. Krulwich TA, Guffanti AA, **Seto-Young D** (1990). pH Homeostasis bioenergenic work in alkalophile. *FAM Microbiology Review* 75:1-8.
29. Perlin DS, Harris SL, **Seto-Young D**, Haber JE (1989). Defective H+-ATPase of Hygromycin B-resistant pmal Mutants from Saccharomyces cerevisiae. *J Biol Chem* 264:21857-21864.
30. Krulwich TA, Hicks DB, **Seto-Young D**, Guffanti AA (1988). The bioenergetics of Alkalophilic Bacilli. *Critical Review in Microbiol* 16;15-36.
31. Clejan S, Krulwich TA, Mondrus KR, **Seto-Young D** (1986). Membrane lipid composition of obligately and facultatively alkalophilic strains of Bacillus spp. *J Bacteriol* 168:334-340.
32. Goodchild J, Michniewicz J, **Seto-Young D**, Narang S (1985). A novel deletion found during cloning of a synthetic palindromic DNA. *Gene* 33:367-371.
33. **Seto-Young D**, Garcia ML, Krulwich TA (1985). Reconstitution of a bacterial Na+/H+ antiporter. *J Biol Chem* 260:11393-11395.
34. **Seto-Young D**, Chen CC, Wilson TH (1985). Effect of different phospholipids on the reconstitution of two functions of the lactose carriers of *E. coli .J Membr Biol* 84:259-267.
35. **Seto-Young D**, Bedu, Wilson Th (1984) Transport by reconstituted lactose carrier from parental and mutant strains of *Escherichia coli. J Membr Biol*. 79 (2):185-93.

36. Wilson TH, **Seto-Young D**, Bedu S (1984) Reconstitution of the lactose carrier from mutant and parent cells of *E. coli*. *Biochemical Society Transactions*. 12 (2): 148-150.
37. **Seto-Young DL**, Ellar DJ (1981). Studies on calcium transport during growth and sporulation. *Microbios.* 30 (121-122): 191-208.
38. **Seto-Young DL** Ellar DJ (1979). Membrane changes during germination of *Bacillus megaterium KM* spores, *Microbios*. 26 (103): 7-15.

Abstracts and Presentations (last 6 years)

1. Seth A, Gajzer, DC, Suwandhi P, Feng Y, Poretsky L, Seto-Young, D. (2010) Thiazolidinediones inhibit bone turnover. 92nd Annual Meeting of Endocrine Society Meeting in San Diego.
2. Ariki T, Goldman G, Varadinova M, Joshi, P, Chaanine A, Seth A, Feng Y, Rosenwaks Z, Poretsky L, **Seto-Young D**. (2008) The effects of thiazolidinedione (TZD) on aromatase enzyme kinetics in human granulosa cells. 91st Annual Meeting of the Endocrine Society Meeting, Washington D.C.
3. Goldman G, Araki T, Varadinova M, Poretsky L, **Seto-Young D.** (2008) GLP-1 receptor is present in human ovary, and its expression is up-regulated by Exenatide and insulin. 69th annual Meeting of the American Diabetes Association, New Orleans, Louisiana.
4. Avtanski DB, Parikh G, Strizhevsky M, Feng Y, Pareek A, Singh J, Singh N, Polskaya M, Rosenwaks Z, **Seto-Young D,** Poretsky L. (2008) Thiazolidinediones inhibit estrogen synthesis by interfering with androgen binding to aromatase. 90th Annual Meeting of the Endocrine Society Meeting, Abstract P2-44, San Francisco, CA.
5. Parikh G, Chlamtac N, Rosenwaks Z, Poretsky L, **Seto-Young D**. (2008) Vitamin D receptor (VDR) is expressed in human ovarian cells, likely mediating the effects of Vitamin D on testosterone (T) and progesterone (P) production. 90th Annual Meeting of the Endocrine Society Meeting, Abstract P2-468, San Francisco, CA.
6. Avtanski D, Strizhevsky M, Parikh P, Araki T, Rosen O, Demetri C, Goldman M, Cadag S, Rosenwaks Z, Poretsky L and **Seto-Young D**. (2007). The effect of thiazolidinediones on estrogen production in human granulosa cells. The Endocrine Society's 89 Annul Meeting in Toronto.
7. Song L, **Seto-Young D**, Liu L, Poretsky L. (2007) Lack of consistent effect of insulin-like growth factor I (IGF-1) on plasminogen activator inhibitor type-1 (PAI-1) production in cultured human aortic endothelial cells. The Endocrine Society's 89 Annul Meeting in Toronto.
8. Avtanski D, Kaplun J, Strizhevsky M, Park A, Patel P, Kantor Y, Brown MK, Dhilon S, Moosay A, Pang X, Akhtar MJ, Goldman M Yeshou D, Holcomb K, Rosenwaks Z, **Seto-Young D** Poretsky L, (2006) Interactions among PPAR-γ, insulin signaling pathways and aromatase in human ovarian cells. The Endocrine Society's 88 Annul Meeting in Boston.
9. Avtanski D, Park A, Kaplun J, Strizhevsky M, Kantor Y, Holcomb K, Poretsky L, **Seto-Young D** (2006) Effects of mitogen-activated protein kinase (MAPK) inhibition on progesterone and insulin-like growth factor binding protein-1 (IGFBP-1) production in human ovarian cells. The Endocrine Society's 88 Annul Meeting in Boston.
10. Patel P, **Seto-Young D**, Poretsky L, Liao E. (2006) Effects of Vitamin D Supplementation in Type 2 Diabetes Mellitus. The Endocrine Society's 88 Annul Meeting in Boston.
11. Saliby AH, Stachel MW, Santos EM, **Seto-Young D**, Zonzsein J, Tranbaugh R, Poretsky L. (2006) The effect of glucose-insulin-potassium infusion and rosiglitazone on the clinical outcome and the circulating levels of free fatty acids in patients undergoing coronary artery bypass grafting. The Endocrine Society's 88 Annul Meeting in Boston.
12. **Seto-Young D,** Paliou M, Schlosser J, Patel P, Park A, Avtanski D, Latif W, Babar N, Yeshou D, Omry G, Holcomb K, Poretsky, L. (2005) Peroxisome proliferator activated receptor-g (PPAR-γ) in human ovarian cells: its role in regulation of steroidogenesis and IGFBP-1 production. The Endocrine Society's 87 Annul Meeting in San Diego.
13. Park A, Poretsky L, Holcomb K, Chang P, **Seto-Young D.** (2005) Effects of rosiglitazone on human ovarian steroidogenesis and IGFBP-1 production in vitro. Society of Gynecologic Investigators Annual Meeting at Los Angeles.
14. Saliby A, Brass B, **Seto-Young D,** Tranbaugh R, Poretsky L. (2005) The effects of Gllucose-Insulin-Potassium (GIK) infusion on the Outcomes of Coronary Artery Bypass Graft (CABG). The American diabetes Association, 65th Annual Meeting at San Diego.
15. S**eto-Young D,** Leonardi O, Holcomb K, Kaplun J, Omry G, Park A, Levy E, Marzieh Salehi, Bravo-Vera, R, Sheikh A, Chang P, Poretsky L. (2004) Characterization of a non-transformed human ovarian cell culture: Regulation of Steroidogenesis by gonadotropins and insulin . The Endocrine Society's 86th Annual Meeting in New Orleans.
16. Paliou M, schlosser J, Abeleve Z, Paparsenos A, Seto-Young D, Salehi M, Busta A, Poretsky L. (2004) Impact of intravenous insulin infusion (III) on length of stay (LOS) and post-oprative complications in 438 patients with diabetes (DM) undergoing coronary artery bypass graft (CABG). 86th Annual Meeting of Endocrine Society, P1-332, New Orleans.
17. **Seto-Young D**, Zajac J, Salehi, M, Kaplun, J, feldman D, Liu, H-C, Rosenwaks, Z, Poretsky, L. (2003) The role of mitogen activated protein kinase in insulin and IGF-I signaling cascades for progesterone and IGFBP-1 production in human granulosa cells. The Endocrine Society's 85th Annual Meeting in Philadelphia.
18. **Seto-Young D**, Salehi, M, Chidakel, A, Zajac, J, Yih, M, Chang P, Poretsky, L. (2003) Initial Characterization of a short-term human ovarian cell culture. The Endocrine Society's 85th Annual Meeting in Philadelphia.

Books, Chapters in Books and Review Articles:

1. Wilson TH, **Seto-Young**, D, Bedu, S, Putzrath, RM, Muller-Hill B (1985). A study of mutants of the lactose transport system of *Escherichia coli. Current Topics in Membranes and Transport.* (Academic Press, Inc.) 23:121-134.
2. Krulwich TA, Hicks DB, **Seto-Young D**, Guffanti AA (1988). The bioenergetics of Alkalophilic Bacilli. *Critical Review in Microbiol* 16;15-36.
3. Krulwich TA, Guffanti AA, **Seto-Young D** (1990). pH Homeostasis bioenergenic work in alkalophile. *FAM Microbiology Review* 75:1-8.
4. Perlin DS, **Seto-Young D**, Monk BC, Harris SL, Na S, Haber JE (1994). Genetic approaches to electrogenic proton transport by a yeast H+-ATPase Biomembrane Electrochemistry (M Blank and I Vodyanoy, eds.) *Advances in Chemistry Series*, 235:315-328.
5. Perlin D, **Seto-Young, D**, Monk BC. (1997) The Plasma Membrane H+-ATPase of Fungi- A Candidate Drug Targe? Annals. Of the New York Acdemy of Sciences 834: 609-617