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**Date Submitted:** 2013-07-23 14:00:58**Confirmation Number:** 97120**Template:** CIHR Academic

## Personal Information

### Identification

Dr. Jennifer Estall

Correspondence language: English

Sex: Female

Date of Birth: 7/29

Canadian Residency Status: Canadian Citizen

Country of Citizenship: Canada

### Language Skills

Language	Read	Write	Speak	Understand
English	Yes	Yes	Yes	Yes
French	Yes	No	No	Yes

### Address

The primary address is denoted by (\*)

Courier	Primary Affiliation (*)
Mécanismes moléculaires du diabète Institut de recherches cliniques de Montréal (IRCM) 110, avenue des Pins Ouest Montréal H2W 1R7 Canada, Quebec	Mécanismes moléculaires du diabète Institut de recherches cliniques de Montréal (IRCM) 110, avenue des Pins Ouest Montréal H2W 1R7 Canada, Quebec

### Telephone

The primary telephone is denoted by (\*)

Fax	514-987-5745
Laboratory	514-987-5603
Work (*)	514-987-5688

### Email

The primary email is denoted by (\*)

Work (*)	jennifer.estall@ircm.qc.ca
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**Website**

Community	<a href="http://www.ircm.qc.ca/estall">http://www.ircm.qc.ca/estall</a>
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**User Profile**

Disciplines Trained In: Cell Biology, Pharmacology

Research Disciplines: Biochemistry, Endocrinology

Areas of Research: Diabetes, Energy Metabolism, Gene-Environment Interactions, Gene Regulation and Expression, Hepatic Diseases

Fields of Application: Biomedical Aspects of Human Health, Pathogenesis and Treatment of Diseases

Research Specialization Keywords: beta-cells, biochemistry, diabetes, genetic mouse models, insulin resistance, liver, metabolism, mitochondria, obesity, transcription

**Education****Degrees**

2006/2 - 2011/2	Post-doctorate - Research Fellow - Metabolic disease - Harvard Medical School and Dana-Farber Cancer Institute - Completed Supervisors: Dr. Bruce Spiegelman
2000/9 - 2005/11	Doctorate - Doctorate of Philosophy in Science - Molecular Biology - University of Toronto - Completed Supervisors: Dr. Daniel Drucker
1996/9 - 2000/5	Bachelor's - Honours Bachelor of Science - Pharmacology - University of Toronto - Completed Supervisors: Dr. Derek van der Kooy

**Recognitions**

2012/11 - 2016/10	Chercheurs-boursiers - Junior 1 - Prize / Award Fonds de la recherche en santé du Québec Amount: 256943 (Canadian dollar)
2012/11 - 2017/10	New Investigator Salary Award - Prize / Award Canadian Institutes of Health Research Amount: 300000 (Canadian dollar)
2012/5 -	DCDSB Distinguished Alumni - Distinction Durham Catholic District School Board
2009/2 -	Keystone Symposia Scholarship - Prize / Award National Institute of Health Amount: 1000
2007/10 - 2009/9	H.L. Holmes Award - Prize / Award National Research Council Canada Amount: 200000 (Canadian dollar)
2007/7 - 2010/6	CIHR Post-Doctoral Fellowship Research Award - Prize / Award Canadian Institutes of Health Research Amount: 135000

2006/5 -	Stuart Alan Hoffman Memorial Prize - Prize / Award University of Toronto - Department of Lab Medicine Amount: 500
2004/9 - 2005/8	Ontario Graduate Scholarship - Prize / Award Ministry of Training, Colleges and Universities Amount: 15000
2004/7 - 2006/8	Canadian Graduate Scholarship - Doctoral Research Award - Prize / Award Canadian Institutes of Health Research Amount: 60000
2004/2 -	Keystone Symposia: NIH Travel Award - Prize / Award National Institute of Health Amount: 1000
2004/1 -	MSH/UHN Mimi and Charles Hollenberg Research Comp. - Prize / Award University Health Network Amount: 0
2004/1 -	Dutkevich Foundation/Departmental Travel Award - Prize / Award University of Toronto - Department of Lab Medicine Amount: 1000
2003/9 - 2004/8	Novo Nordisk Student (OSOTF) Award - Prize / Award Banting and Best Diabetes Centre & Novo Nordisk Amount: 20000
2003/6 -	Trainee Travel Award - Prize / Award Banting and Best Diabetes Center Amount: 750
2002/6 -	Trainee Travel Award - Prize / Award Banting and Best Diabetes Center Amount: 750
2001/9 - 2002/8	Ontario Graduate Scholarship - Prize / Award Ministry of Training, Colleges and Universities Amount: 15000
2001/9 - 2002/8	University of Toronto Fellowship - Prize / Award University of Toronto Amount: 10000
2001/9 - 2003/8	NSERC Post-graduate Scholarship - Prize / Award Natural Sciences and Engineering Research Council of Canada (NSERC) Amount: 37600
2001/1 - 2001/8	Novo Nordisk Student (OSOTF) Award - Prize / Award Banting and Best Diabetes Centre & Novo Nordisk Amount: 20000
2000/9 - 2001/8	Ontario Graduate Scholarship - Prize / Award Ministry of Training, Colleges and Universities Amount: 11859
2000/5 -	Scott Memorial Scholarship - Prize / Award University of Toronto, Victoria College Amount: 500

2000/5 -	The G.A. Cox Gold Medal - Honor University of Toronto, Victoria College
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## Employment

### Academic Work Experience

2012/3 -	Adjunct Professor McGill University - Experimental Medicine
2011/5 -	Assistant Professor Université de Montréal - Medicine - Biologie Moléculaire
2011/3 -	Assistant Research Professor Clinical Research Institute of Montreal - Cardiovascular and Metabolic Diseases
2006/2 - 2011/2	Post-Doctoral Fellow Harvard Medical School - Medicine - Cell Biology
2006/9 - 2007/7	Teaching Fellow Harvard University Extension School - Medicine - Biochemistry
2000/9 - 2005/11	Graduate Student University of Toronto - Laboratory Medicine and Pathobiology
2001/9 - 2005/5	Teaching Assistant University of Toronto - Laboratory Medicine and Pathobiology
2000/6 - 2000/8	Summer Research Student University of Toronto - Banting & Best Diabetes Centre
1999/9 - 2000/5	Student, 4th Year Research Project University of Toronto - Pharmacology
1999/6 - 1999/8	Summer Research Student University of Toronto - Anatomy and Cell Biology

### Non-academic Work Experience

2008/2 - 2011/3	Animal Manager and IACUC Representative - Dana Farber Cancer Institute
2007/2 - 2011/2	Supervisor - Dana Farber Cancer Institute
2006/9 - 2007/9	Mentor - Boston Latin High School

### Affiliations

The primary affiliation is denoted by (\*)

2012/4 -	Member - Montreal Diabetes Research Center (MDRC)
2012/3 -	Associate Member - Experimental Medicine - McGill University
2011/5 -	Assistant Professor - Medicine - Université de Montréal
(*) 2011/3 -	Assistant Research Professor - Cardiovascular and Metabolic Diseases - Clinical Research Institute of Montreal
2010/1 -	Member - Association for Women in Science (AWIS)

## Leaves of Absence and Impact on Research

2012-07-10 - 2012-11-23	Parental - Clinical Research Institute of Montreal Absence and Impact Description: Maternity Leave
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## Research Funding History

### Awarded

2012/11 - 2017/10 Principal Investigator	Transcriptional Regulation of the Metabolic Syndrome	
	<b>Funding Sources</b>	
	2012/11 - 2017/10	New Investigator Salary Award Canadian Institutes of Health Research (CIHR) Total Funding: 300000 (Canadian dollar) Funding Competitive?: Yes
2012/4 - 2017/4 Principal Investigator	Transcriptional Regulators: Role in human metabolism and diabetes prevention	
	<b>Funding Sources</b>	
	2012/4 - 2017/4	Leaders Opportunity Fund Canada Foundation for Innovation (CFI) Total Funding: 400161 (Canadian dollar) Funding Competitive?: Yes
2012/11 - 2016/10 Principal Investigator	Régulation Transcriptionnelle du Syndrome Métabolique	
	<b>Funding Sources</b>	
	2012/7 - 2016/6	Chercheurs-boursiers - Juniors 1 (Salary award) Fonds de la Recherche en Santé du Québec (FRSQ) Total Funding: 256943 (Canadian dollar) Funding Competitive?: Yes
2011/3 - 2016/2 Principal Investigator	Mitochondrial Dysfunction and the Metabolic Syndrome	
	<b>Funding Sources</b>	
	2011/3 - 2016/2	Start-Up Funds Clinical Research Institute of Montreal Total Funding: 313000 (Canadian dollar) Funding Competitive?: No
2012/11 - 2015/10 Principal Investigator	Régulation Transcriptionnelle du Syndrome Métabolique	
	<b>Funding Sources</b>	
	2012/11 - 2015/10	Subvention d'établissement de jeune chercheur Fonds de la Recherche en Santé du Québec (FRSQ) Total Funding: 45000 (Canadian dollar) Funding Competitive?: Yes
2012/7 - 2015/6 Principal Investigator	Beta-cell mitochondrial function and the pathogenesis of diabetes	
	<b>Funding Sources</b>	
	2012/7 - 2015/6	Operating Grant 2012 Canadian Diabetes Association Total Funding: 275000 (Canadian dollar) Funding Competitive?: Yes
2013/3 - 2014/2 Principal Applicant	Transcriptional Regulation of Fatty Liver Disease	

	<b>Funding Sources</b>
	2013/3 - 2014/2   Operating Grant - PA: INMD Start Up Funds Canadian Institutes of Health Research (CIHR) Total Funding: 100000 (Canadian dollar) Funding Competitive?: Yes
2013/2 - 2014/1 Principal Applicant	A novel mouse model of beta-cell insufficiency in type 2 diabetes
	<b>Funding Sources</b>
	2013/2 - 2014/1   Pilot & Feasibility Grant Diabète Québec and Montreal Diabetes Research Centre Total Funding: 10000 (Canadian dollar) Funding Competitive?: Yes

## Completed

2007/7 - 2010/7 Principal Applicant	The regulation of PGC-1beta expression by saturated and trans fatty acids
	<b>Funding Sources</b>
	2007/7 - 2010/7   CIHR Post-Doctoral Fellowship Canadian Institutes of Health Research (CIHR) Total Funding: 135000 (Canadian dollar) Funding Competitive?: Yes
2007/2 - 2009/2 Principal Investigator	PGC-1alpha in the development and pathogenesis of Diabetes Mellitus
	<b>Funding Sources</b>
	2007/2 - 2009/2   H.L. Holmes Award National Research Council Canada (NRC) (Ottawa, ON) Total Funding: 200000 (Canadian dollar) Funding Competitive?: Yes

## Activities

### Supervisory Activities

#### Student/Postdoctoral Supervision

Principal Supervisor	Sarah Sczelecki - Master's Thesis - McGill - Completed Student Degree Start Date: 2011/9 Student Degree Received Date: 2013/8 Project Description: Immune regulation of beta-cell destruction
Principal Supervisor	Aurèle Besse Patin - Doctorate - Univ. de Montréal - In Progress Student Degree Start Date: 2012/9 Student Degree Expected Date: 2016/8 Project Description: NAFLD and insulin resistance in diabetes
Principal Supervisor	Daniel Oropeza - Doctorate - McGill - In Progress Student Degree Start Date: 2011/6 Student Degree Expected Date: 2014/8 Project Description: Mitochondrial dysfunction and islet biology
Principal Supervisor	Naveen Khan - Master's Thesis - McGill University - In Progress Student Degree Start Date: 2013/9 Student Degree Expected Date: 2015/8 Project Description: Characterizing the role of novel transcriptional co-activators in beta-cell survival

Co-Supervisor	Melissa Leveille - Master's non-Thesis - University of Montreal - In Progress Student Degree Start Date: 2013/9 Project Description: Immune regulation of hepatic metabolism
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## Advisory Activities

### Mentoring Activities

2013/5 - Supervisor	McGill University Number of Mentorees: 2 Activity Description: Bachelor student - Summer Internship
2013/5 - Supervisor	Université de Montréal Number of Mentorees: 1 Activity Description: Bachelor student - summer internship
2006/9 - 2007/8 Mentor	Boston Latin School Number of Mentorees: 1

### Community and Volunteer Activities

2013/1 - Reviewer - FRQS Doctoral awards	Fonds de la recherche en santé du Québec Activity Description: Reviewer - doctoral student award applications.
2013/1 - Reviewer - CIHR grad student awards (DRA/ CGS)	Canadian Institutes of Health Research Activity Description: Reviewed applications for doctoral scholarships.
2013/1 - Organizer - Division Seminar Series	Clinical Research Institute of Montreal Activity Description: Monthly seminar series for our division.
2012/12 - Animal Care Committee	Clinical Research Institute of Montreal Activity Description: Internal animal care committee - review protocols and implement policy change
2012/3 - Reviewer - CDA operating grants panel	Canadian Diabetes Association Activity Description: Member of yearly grant review panel for operating funds.
2011/9 - Scientific Life Committee	Clinical Research Institute of Montreal Activity Description: Organize institutional seminar series and faculty retreat.

### Knowledge and Technology Translation

2012/4 - Expert Panel Member	IRCM - Community Engagement - General Public Activity Description: Panel presentation and discussion on current research toward treatment of Type I diabetes
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## Contributions

### Presentations

2013-05-30	"Targeting PGC-1 to treat NAFLD/NASH", CMID Division Seminar Series - IRCM, Canada, Quebec, Montreal Main Audience: Researcher Invited?: Yes
2012-11-13	"Transcriptional Regulation of Metabolism - Liver", Invited lecture: Graduate Course, Karolinska Institutet, Sweden, Stockholm Main Audience: Researcher Invited?: Yes
2012-11-13	"Transcriptional Regulation of Metabolism - Pancreas", Invited Lecture: Graduate Course, Karolinska Institutet, Sweden, Stockholm Main Audience: Researcher Invited?: Yes
2012-04-24	"Type 1 Diabetes – Toward a Needleless Future", IRCM - Café Scientifique, Canada, Quebec, Montreal Main Audience: General Public Invited?: Yes
2012-02-17	"Metabolic abnormalities during aging: Beta-cell dysfunction and Insulin resistance", IRCM - Cardiometabolic Axis Seminar Series, Canada, Quebec, Montreal Main Audience: Researcher Invited?: Yes
2011-11-05	"Chronically reduced muscle PGC-1 $\beta$ impairs glucose homeostasis during aging", 10th Annual New Principal Investigators Meeting, Canada, Quebec, Mont Gabriel Main Audience: Researcher Invited?: Yes
2011-06-14	"Mitochondrial Dysfunction and the Development of Diabetes", Montreal Diabetes Research Center (MDRC) - Seminar Series, Canada, Quebec, Montreal Main Audience: Researcher Invited?: Yes
2010-07-13	"Mitochondrial Dysfunction and the Development of Diabetes", Institute de Recherches Cliniques de Montréal (IRCM) - Seminar Series, Canada, Quebec, Montreal Main Audience: Researcher Invited?: Yes
2010-06-15	"Implications of targeting PGC-1 $\beta$ in the pathogenesis of metabolic disease", Keck School of Medicine, University of Southern California, United States, California, Los Angeles Main Audience: Researcher Invited?: Yes
2010-05-11	"Targeting PGC-1 $\beta$ in the pathogenesis of metabolic disease", Ottawa Hospital Research Institute (OHRI) Seminar Series, Canada, Ontario, Ottawa Main Audience: Researcher Invited?: Yes



2010-04-16	"Implications of targeting PGC-1alpha in the pathogenesis of metabolic disease", University of British Columbia - Child and Family Research Institute (CFRI), Canada, British Columbia, Vancouver Main Audience: Researcher Invited?: Yes
2010-04-14	"PGC-1alpha negatively regulates hepatic FGF21 expression by modulating the heme/Rev-erbalpha axis", Keystone Symposia: Islet Biology and Diabetes, Canada, British Columbia, Whistler Main Audience: Researcher Invited?: Yes

## Publications

### PubMed Articles

2013-07-01	Adamovich Y , Shlomai A , Tsvetkov P , Umansky KB , Reuven N , Estall JL , Spiegelman BM , Shaul Y, "The Protein Level of PGC-1 $\beta$ , a Key Metabolic Regulator, Is Controlled by NADH-NQO1.", Molecular and cellular biology, 33(13) PubMed ID: 23648480
2012-12-07	Ruas JL, White JP, Rao RR, Kleiner S, Brannan KT, Harrison BC, Greene NP, Wu J, Estall JL, Irving BA, Lanza IR, Rasbach KA, Okutsu M, Nair KS, Yan Z, Leinwand LA, Spiegelman BM, "A PGC-1 $\beta$ Isoform Induced by Resistance Training Regulates Skeletal Muscle Hypertrophy.", Cell, 151(6) PubMed ID: 23217713
2012-06-12	Kleiner S, Mepani RJ, Laznik D, Ye L, Jurczak MJ, Jornayvaz FR, Estall JL, Chatterjee Bhowmick D, Shulman GI, Spiegelman BM., "Development of insulin resistance in mice lacking PGC-1 $\beta$ in adipose tissues.", Proceedings of the National Academy of Sciences of the United States of America, 109(24) PubMed ID: 22645355
2012-02-01	Jennifer L. Estall, "The Foxo family: partners in crime or silent heroes.", Endocrinology, 153(2) PubMed ID: 22267684
2011-08-01	Fisher FM, Estall JL, Adams AC, Antonellis PJ, Bina HA, Flier JS, Kharitonov A, Spiegelman BM, Maratos-Flier E., "Integrated regulation of hepatic metabolism by fibroblast growth factor 21 (FGF21) in vivo.", Endocrinology, 152(8) PubMed ID: 21712364
2011-06-15	Lustig Y, Ruas JL, Estall JL, Lo JC, Devarakonda S, Laznik D, Choi JH, Ono H, Olsen JV, Spiegelman BM., "Separation of the gluconeogenic and mitochondrial functions of PGC-1 $\alpha$ through S6 kinase.", Genes & development, 25(12) PubMed ID: 21646374
2011-03-02	Eguchi J, Wang X, Yu S, Kershaw EE, Chiu PC, Dushay J, Estall JL, Klein U, Maratos-Flier E, Rosen ED., "Transcriptional control of adipose lipid handling by IRF4.", Cell metabolism, 13(3) PubMed ID: 21356515

2011-02-02	Wu J, Ruas JL, Estall JL, Rasbach KA, Choi JH, Ye L, Boström P, Tyra HM, Crawford RW, Campbell KP, Rutkowski DT, Kaufman RJ, Spiegelman BM., "The unfolded protein response mediates adaptation to exercise in skeletal muscle through a PGC-1 $\beta$ /ATF6 complex.", <i>Cell metabolism</i> , 13(2) PubMed ID: 21284983
2011-01-01	Seale P, Conroe HM, Estall J, Kajimura S, Frontini A, Ishibashi J, Cohen P, Cinti S, Spiegelman BM., "Prdm16 determines the thermogenic program of subcutaneous white adipose tissue in mice.", <i>The Journal of clinical investigation</i> , 121(1) PubMed ID: 21123942
2010-12-14	Rasbach KA, Gupta RK, Ruas JL, Wu J, Naseri E, Estall JL, Spiegelman BM, "PGC-1 $\alpha$ regulates a HIF2 $\alpha$ -dependent switch in skeletal muscle fiber types.", <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 107(50) PubMed ID: 21106753
2010-07-22	Choi JH, Banks AS*, Estall JL*, Kajimura S*, Boström P, Laznik D, Ruas JL, Chalmers MJ, Kamenecka TM, Blüher M, Griffin PR, Spiegelman BM., "Anti-diabetic drugs inhibit obesity-linked phosphorylation of PPAR $\gamma$ by Cdk5.", <i>Nature</i> , 466(7305) PubMed ID: 20651683
2009-12-29	Estall JL, Ruas JL, Choi CS, Laznik D, Badman M, Maratos-Flier E, Shulman GI, Spiegelman BM., "PGC-1 $\alpha$ negatively regulates hepatic FGF21 expression by modulating the heme/Rev-Erb( $\alpha$ ) axis.", <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 106(52) PubMed ID: 20018698
2009-09-01	Yusta B, Holland D, Koehler JA, Maziarz M, Estall JL, Higgins R, Drucker DJ., "ErbB signaling is required for the proliferative actions of GLP-2 in the murine gut.", <i>Gastroenterology</i> , 137(3) PubMed ID: 19523469
2009-07-01	Estall JL, Kahn M, Cooper MP, Fisher FM, Wu MK, Laznik D, Qu L, Cohen DE, Shulman GI, Spiegelman BM., "Sensitivity of lipid metabolism and insulin signaling to genetic alterations in hepatic peroxisome proliferator-activated receptor- $\gamma$ coactivator-1 $\alpha$ expression.", <i>Diabetes</i> , 58(7) PubMed ID: 19366863
2006-11-01	Yusta B, Baggio LL, Estall JL, Koehler JA, Holland DP, Li H, Pipeleers D, Ling Z, Drucker DJ., "GLP-1 receptor activation improves beta cell function and survival following induction of endoplasmic reticulum stress.", <i>Cell metabolism</i> , 4(5) PubMed ID: 17084712
2006-01-01	Estall JL, Drucker DJ., "Glucagon and glucagon-like peptide receptors as drug targets.", <i>Current pharmaceutical design</i> , 12(14) PubMed ID: 16712485
2006-01-01	Estall JL, Drucker DJ., "Glucagon-like Peptide-2.", <i>Annual review of nutrition</i> , 26 PubMed ID: 16602931

2005-06-10	Estall JL, Koehler JA, Yusta B, Drucker DJ., "The glucagon-like peptide-2 receptor C terminus modulates beta-arrestin-2 association but is dispensable for ligand-induced desensitization, endocytosis, and G-protein-dependent effector activation.", <i>The Journal of biological chemistry</i> , 280(23) PubMed ID: 15817468
2005-05-01	Shin ED, Estall JL, Izzo A, Drucker DJ, Brubaker PL., "Mucosal adaptation to enteral nutrients is dependent on the physiologic actions of glucagon-like peptide-2 in mice.", <i>Gastroenterology</i> , 128(5) PubMed ID: 15887116
2005-01-01	Estall JL, Drucker DJ., "Tales beyond the crypt: glucagon-like peptide-2 and cytoprotection in the intestinal mucosa.", <i>Endocrinology</i> , 146(1) PubMed ID: 15601903
2004-08-01	Estall JL, Yusta B, Drucker DJ., "Lipid raft-dependent glucagon-like peptide-2 receptor trafficking occurs independently of agonist-induced desensitization.", <i>Molecular biology of the cell</i> , 15(8) PubMed ID: 15169869
2003-11-01	Estall JL, Drucker DJ., "Dual regulation of cell proliferation and survival via activation of glucagon-like peptide-2 receptor signaling.", <i>The Journal of nutrition</i> , 133(11) PubMed ID: 14608100
2002-07-12	Yusta B, Estall J, Drucker DJ., "Glucagon-like peptide-2 receptor activation engages bad and glycogen synthase kinase-3 in a protein kinase A-dependent manner and prevents apoptosis following inhibition of phosphatidylinositol 3-kinase.", <i>The Journal of biological chemistry</i> , 277(28) PubMed ID: 11978789
2001-06-15	Lovshin J, Estall J, Yusta B, Brown TJ, Drucker DJ., "Glucagon-like peptide (GLP)-2 action in the murine central nervous system is enhanced by elimination of GLP-1 receptor signaling.", <i>The Journal of biological chemistry</i> , 276(24) PubMed ID: 11262390

## Journal Articles

2012/12 Revision Requested Co-Author	Adamovich Y, Shlomai A, Tsvetkov P, Reuven N, Estall JL, Spiegelman BM, Shaul Y., "The protein of PGC-1alpha, a key metabolic regulator, is controlled by NADH-NQO1", <i>Molecular and Cellular Biology</i> Refereed?: Yes
2005/ Published First Listed Author	Estall J.L. and Daniel Drucker., "New Insights into the role of Incretins in the Treatment of Diabetes.", <i>Medscape Conference Coverage - European Association for the Study of Diabetes 41st Annual Meeting.</i>
2005/ Published First Listed Author	Jennifer L. Estall and Daniel J. Drucker, "Glucagon-like peptide 2: From Bench to Clinical Application.", <i>International Diabetes Monitor</i> , 17(6), 549-51 Refereed?: Yes