BIOGRAPHICAL SKETCH

NAME	POSITION TITLE
Robert M. O'Doherty, Ph.D.	Associate Professor
eRA COMMONS USER NAME odohertyr	

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
University of Dublin, Trinity College, Dublin, Vanderbilt University, Nashville, TN	BA (Mod) PhD	1982-1986 1989-1995	Zoology Molecular Physiology

A. Personal Statement

The major foci of our current research efforts are in the area of immunometabolism, that is the role of immune system in the regulation of metabolism, and the effects of metabolic alterations on immune system function, with a particular focus on disease states such as obesity, NAFLD, and Type 2 Diabetes. We have accumulated extensive experience in this arena, utilizing a range of metabolic, physiological, biochemical, molecular and immunological approaches in a range of mouse, primary tissue, and immortal cell lines.

B. Positions and Honors/Service

Positions

1995-1998	Research Fellow, University of Texas, Southwestern Medical Center at Dallas, Dept. of Biochemistry and Gifford Laboratories for Diabetes Research
1998-1999	Assistant Research Instructor, Dept. of Internal Medicine and Gifford Laboratories for Diabetes Research, University of Texas, Southwestern Medical Center at Dallas
1999-2006	Assistant Professor of Medicine, School of Medicine, Div of Endocrinology/Metabolism University of Pittsburgh
1999-2006	Assistant Professor of Molecular Genetics and Biochemistry, School of Medicine, University of Pittsburgh
2004-	Graduate Faculty, Dept of Molecular Genetics and Biochemistry, University of Pittsburgh
2007-	Associate Professor of Medicine with tenure, School of Medicine, Div of Endocrinology and Metabolism, University of Pittsburgh
2007-	Associate Professor of Microbiology and Molecular Genetics, School of Medicine, University of Pittsburgh (Secondary)
2009-2010	Associate Professor of Physiology, University College Cork, Ireland
2009-2010	Principal Investigator, Alimentary Pharmabiotic Center, University College Cork, Ireland
2012-	Director, Metabolic Diseases Translational Research Initiative

Honors and Service

1995	Inaugural Recipient, American Physiological Society/Genentech Postdoctoral Fellowship in Organ & System Physiology
1997	Recipient, Novo Nordisk Mentor-based Postdoctoral Scholarship
1997	Rapportteur, International Juvenile Diabetes Foundation, World Conference, Athens, Greece
2000	Recipient, Career Development Award, American Diabetes Association
2005-2007	Member, ADA Annual Meeting Program Planning Committee (Scientific Sessions)
2005	Member, NIH Study Section Special Emphasis Panel, Molecular Aspects of Obesity and Diabetes.

2006-2009	Ad Hoc Member, NIH Study Section, Integrated Physiology of Diabetes and Obesity (IPOD)
2006-2009	Chair, Research Faculty Committee, Div of Endocrinology and Metabolism
2006-2007	Director, P+F Program, U. Pitt Obesity and Nutrition Research Center
2007-2008	Member, University of Pittsburgh Standing Committee for Tenured Faculty Promotions and Appointments (TFPA)
2007-2008	Member, University of Pittsburgh Integrated Graduate Program Recruitment Committee
2009-2013	Member, NIH Study Section, Integrated Physiology of Diabetes and Obesity (IPOD)
2010-2013	Member, University of Pittsburgh Standing Committee for Tenured Faculty Promotions and Appointments (TFPA)
2010-	Editorial Board, American Journal of Physiology (Endo/Metabol)
2011-	Editorial Board, Diabetes

C. Publications (from 63 total)

Most Relevant

1. Stefanovic-Racic, M, X Yang, MS Turner, BS Mantell, DB Stolz, TL Sumpter, IJ Sipula, N Dedousis, DK Scott, PA Morel, AW Thomson, **RM O'Doherty**. Dendritic cells promote macrophage infiltration and comprise a substantial proportion of obesity-associated increases in $CD11c^+$ cells in adipose tissue and liver of obese mice. *Diabetes.* 2012 Sep;61(9):2330-9. Epub 2012 Jul 30. PMID: 22851575
2. Murphy EF, PD Cotter, A Hogan, A Joyce, S Healy, TM Marques, T Huffe O O'Sullivan, F Fouhy, S Clarke, PW O'Toole, EM Quigley, C Stanton, PR Ross, **RM O'Doherty***, F Shanahan*. Divergent metabolic outcomes arising from targeted manipulation of the gut microbiota**.** *Gut*. 2013 Accepted Aug 9. [Epub ahead of print] PMID: 22345653 (*Co-corresponding authors)
3. Murphy, E, SF Clarke, TM Marques, C Hill, C Stanton, RP Ross, **RM O'Doherty**, F Shanahan, PD Cotter. Antimicrobials: Strategies for Targeting Obesity and Metabolic Health? *Gut Microbes*. In Press
4. Mantell B, M Stefanovic-Racic, N Dedousis, IJ Sipula, **RM O'Doherty**. Mice lacking NKT cells but with a complete complement of $CD8^+$ T-cells are not protected against the metabolic abnormalities of diet-induced obesity. *PloS ONE***,** 2011, 6(6): e19831. doi:10.1371/journal.pone.0019831
5. Huang W, A Metlakunta, N Dedousis, P Zhang, I Sipula, JJ Dube, DK Scott, **RM O'Doherty**. Depletion of liver Kupffer cells prevents the development of diet-induced hepatic steatosis and insulin resistance. *Diabetes.* 2010 Feb;59(2):347-57. Epub 2009 Nov 23. PMID: 19934001
6. Murphy EF, PD Cotter, A Hogan, A Joyce, S Healy, TM Marques, T Huffe O, O'Sullivan, F Fouhy, S Clarke, PW O'Toole, EM Quigley, C Stanton, PR Ross, **RM O'Doherty**, F Shanahan. The composition and energy harvesting capacity of the gut microbiota and their relationship to diet and obesity over time**.** *Gut*. 2010 Dec;59(12):1635-42. Epub 2010 Oct 6. PMID: 20926643 (Commentary in *Gut*. 2010 Dec;59(12))
7. Radin MS, S Sinha, BA Bhatt, N. Dedousis, **RM O'Doherty**. Inhibition or deletion of the lipopolysaccaride receptor Toll-like receptor 4 confers partial protection against lipid-induced insulin resistance in rodent skeletal muscle. *Diabetologia*. 51:336-346, 2008
8. Bhatt, BA, **RM O'Doherty**. Insulin resistance, inflammation, and the NF-κB pathway. IN *Advances in Molecular and Cellular Endocrinology; New Transcription Factors and their Role in Diabetes and its Therapy*, Ed: JE Friedman, Elsevier, 2006
9. Bhatt BA, JJ Dube, N Dedousis, J Alton-Reider, **RM O'Doherty**. Diet-induced obesity and acute hyperlipidemia reduce IκBα levels in rat skeletal muscle in a fiber-type dependent manner. *Am J Physiol* 290: R233-R240, 2006.
10. Sinha S, G Perdomo, NF Brown, **RM O'Doherty**. Fatty acid-induced insulin resistance in L6 myotubes is prevented by inhibition of activation and nuclear translocation of NF□B. *J.Biol.Chem,* 279:41294-41301, 2004

Other

11. **O'Doherty RM**, Lehman DL, Telemarque S, Newgard CB. Metabolic impact of glucokinase overexpression in liver. Lowering of blood glucose in fed rats is accompanied by hyperlipidemia. *Diabetes* 48:2022-2027, 1999.

12. **O'Doherty RM**, Anderson PR, Jones J, Jensen PB, Berman HK, Newgard CB. Overexpression of a glycogen targeting subunit of protein phosphatase-1 in liver of normal rats preferentially activates the indirect pathway of glycogen synthesis. *J Clin Invest*, 105:479-488, 2000
13. CB Newgard, Brady MJ, **O'Doherty, RM**, Saltiel, AR. Organizing glucose disposal: Emerging roles of the glycogen targeting subunits of protein phosphatase-1. *Diabetes* 49:1967-1977, 2000
14. Metukuri MR, P Zhang, LC Alonso, K Takane, R Gramignoli, SC Strom, **RM O'Doherty**, AF Stewart, RC Vasavada, A Garcia-Ocaña, DK Scott. ChREBP mediates glucose-stimulated pancreatic beta cell proliferation. *Diabetes*. 2012 Aug;61(8):2004-15. Epub 2012 May 14.PMID: 22586588
15. He J, J Gao, M Xu, M Stefanovic-Racic, **RM O'Doherty,**W Xie PXR ablation alleviates diet-induced and genetic obesity and insulin resistance in mice. *Diabetes*. In Press

D. Active Research Support

R01 DK072162 (O'Doherty RM) 04/01/11-03/31/15 4.8 calendar
NIH/NIDDK
Leptin Action and Macrophages
The goal of the proposed research is to address the role of macrophages in mediating the metabolic actions of leptin, and the biochemical and molecular mechanisms of macrophage leptin action.

R21 DK091673 (Scott DK) 04/01/11-03/31/14 0.6 calendar
NIH/NIDDK
Epigenomic Regulation of Gene Expression in Diet Induced Obesity
The goal of this proposal is to test the hypothesis that a high fat diet induces epigenetic changes in the adult mouse liver, resulting in altered DNA methylation, gene expression, and metabolic phenotype

R01 DK065149 (Scott DK) 04/01/12-03/31/16
NIH/NIDDK 1.2 calendar
The role of c-Myc in ChREBP-dependent glucose-stimulated gene expression
The goals of this proposal are to determine if Myc activity is altered by glucose, how Myc promotes ChREBP-dependent glucose-stimulated gene expression, and the consequences of altering the abundance of Myc in the liver.

R01 HL111706 (O'Donnell CP) 04/01/13-31/03/18 1.2 calendar
NIH Nitrite and hypoxia increase mitochondrial biogenesis and insulin sensitivity
The goal of this project is to determine the mechanistic pathways through which exposure to altitude hypoxia increases insulin sensitivity through nitrite mediated adaptations in mitochondrial function