

CURRICULUM VITAE

Timo Pyry Juhani Otonkoski

Date of birth: February 23, 1956 in Helsinki, Finland

Present positions:

- Professor of Experimental Diabetes and Human Stem Cell Research, University of Helsinki 2007-
- Doctor-in Chief, Children's Hospital, University of Helsinki 2007-

Degrees:

- Lic. Med. (M.D.), University of Helsinki, 1981
- D.M.Sc. (Ph.D.), University of Helsinki, 1989 (with honors)
- Licenced Pediatrician, University of Helsinki, 1992-
- Docent of Experimental Endocrinology, University of Helsinki, 1996-
- Licenced Pediatric Endocrinologist, University of Helsinki, 2000-

Professional history (abbreviated)

- Assistant Chief Physician, Children's Hospital, University of Helsinki, 1998-2006
- Senior Scientist of The Academy of Finland 1.1.2005-31.12.2005
- Coordinator, Biomedicum Helsinki, Program of Developmental and Reproductive Biology 2004-2006
- Fellow in Pediatric Endocrinology, Children's Hospital, University of Helsinki, 1994-1998
- Group Leader, Transplantation Laboratory, Haartman Institute, University of Helsinki, 1994-2001
- Fellow in Pediatric Endocrinology, University of California, San Diego, 1993-1994
- Postdoctoral Fellow, The Whittier Institute for Diabetes and Endocrinology, La Jolla, California, 1991-1994
- Resident and Research Fellow, Children's Hospital, University of Helsinki, 1983-1991
- Public Health Officer, Ilomantsi, Finland 1981-1982

Memberships in Scientific Societies:

American Diabetes Association (ADA), European Association for the Study of Diabetes (EASD), Cell Transplantation Society, Immunology of Diabetes Society, International Society for Pediatric and Adolescent Diabetes, International Society for Stem Cell Research (ISSCR), European Society for Pediatric Endocrinology (ESPE)

Honors/Awards:

- Helena and Niilo Hallman Prize (Finnish Pediatric Association Young Investigator Award) 1996
- Juvenile Diabetes Foundation International:
Career Development Award 1995-1999
Mary Jane Kugel Award 2003
- European Society for Pediatric Endocrinology,
Henning Andersen Prize 1998 (Best clinical abstract, last author)
Henning Andersen Prize 2003 (Best clinical abstract, first author)

Ph.D. thesis supervisor:

Officially supervised four Ph.D thesis projects, and is currently the supervisor of three registered Ph.D projects at the University of Helsinki.

Ph.D. thesis opponent:

Four times in Finland, Sweden and Denmark

Ph.D. thesis review:

Fourteen times

Positions in Scientific Organizations

- Member of the research evaluation committee of the Helsinki University Central Hospital (HUS), 1999-2001
- Finnish Society for Pediatric Endocrinology, Member of the Board 2001-2005
- Member of the Juvenile Diabetes Foundation Medical Science Review Committee, 2000-2003
- European Association for the Study of Diabetes (EASD), Council Member 2003-
- European Foundation for the Study of Diabetes (EFSD), Scientific Review Committee member 2003-
- Finnish Society of Diabetes Research, Member of the Board 2003-
- Reviewer for the Research Councils of Denmark, Belgium and Austria 2001-
- Reviewer for the Wellcome Trust, 2003-
- Scientific review panel member, European Union 7. Framework Program, 2007

Editorial duties

- Associate Editor, Diabetologia (Official Journal of the European Association for the Study of Diabetes; IF 5,6) 2008-
- Hyvä Terveys (Good Health) Magazine, Member of the Editorial Board, 2008-

Reviewer in scientific journals

Diabetes, Diabetologia, Diab. Metab. Rev., Acta Obst. Gyn. Scand., Human Mutation, Exp. Cell Res., Mol. Cell. Endocrinol., Eur. J. Endocrinol., Ann. Med., APMIS, J. Pediatrics, J. Endocrinol., J. Biotechnol., Differentiation, J. Clin. Endocrinol. Metab., PNAS, Mol. Endocrinology, Stem Cells, Nature Clinical Medicine, J. Biol. Chem, Am. J. Transplantation, Cell Proliferation.

Organizer of Scientific Meetings

- 16th International Diabetes Federation Congress, Helsinki 1997, Scientific program committee.
- 2nd Workshop of the European Network for Research into Hyperinsulinism, Helsinki 1999 (Chairman)
- 4th International Symposium on Pancreatic Islet Development and Stem Cells in Diabetes, Helsinki 2003 (Chairman)
- European Society of Pediatric Endocrinology, 45th Annual Meeting, Helsinki 2007 (Organizing committee member)
- European Association for the Study of Diabetes (EASD) Annual Meeting 2004 and 2008, scientific program committee.

Invited lectures in international scientific meetings

Fourteen times since 2004.

Current and Recent Research Grant Awards and Participation in International Networks

- Juvenile Diabetes Foundation International (JDRFI), Academy of Finland, Sigrid Jusélius Foundation, Helsinki University Hospital Research Funds, European Union (FP6 and7).

Selected publications (out of 88 peer-reviewed original publications or reviews)

1. Miettinen PJ, Huotari A-M, Koivisto T, Ustinov J, Palgi J, Rasilainen S, Lehtonen E, Keski-Oja J, Otonkoski T: Impaired migration and delayed differentiation of pancreatic islet cells in mice lacking EGF-receptors. *Development* 127:2617-2627, 2000
2. Huopio H, Reimann F, Ashfield R, Komulainen J, Lenko HL, Rahier J, Vauhkonen I, Kere J, Laakso M, Ashcroft F and Otonkoski T.: Dominantly inherited hyperinsulinism caused by a mutation in the sulfonylurea receptor type 1. *J.Clin. Inv.* 106:897-906, 2000
3. Roivainen M, Ylipaasto P, Savolainen C, Galama J, Hovi T and Otonkoski T: Functional impairment and killing of human beta cells by enteroviruses - The capacity is shared by a wide range of serotypes, but the extent is a characteristic of individual virus strains. *Diabetologia* 45:693-702, 2002
4. Huotari MA, Miettinen PJ, Palgi J, Koivisto T, Ustinov J, Harari D, Yarden Y and Otonkoski T: ErbB signalling regulates lineage determination of developing pancreatic islet cells in embryonic organ culture. *Endocrinology* 143:4437-4446, 2002
5. Otonkoski T, Kaminen N, Ustinov J, Meissner T, Mayatepek E, Kere J and Sipilä I: Physical exercise-induced hyperinsulinemic hypoglycemia is an autosomal dominant trait characterized by abnormal pyruvate-induced insulin release. *Diabetes* 52:199-204, 2003
6. Pulkkinen MA, Spencer-Dene B, Dickson C, Otonkoski T: The IIIb isoform of fibroblast growth factor receptor 2 is required for proper growth and branching of pancreatic ductal epithelium but not for differentiation of exocrine or endocrine cells. *Mech. Dev.* 120:167-175, 2003
7. Huopio H, Otonkoski T, Vauhkonen I, Reimann F, Ashcroft F and Laakso M: A new subtype of autosomal dominant diabetes due to the E1506K substitution in the sulfonylurea receptor 1 gene. *The Lancet*, 361:301-307, 2003
8. Gao R, Ustinov J, Pulkkinen MA, Lundin K, Korsgren O, Otonkoski T: Characterization of endocrine progenitor cells and critical factors for their differentiation in human adult pancreatic cell culture. *Diabetes* 52:2007-2015, 2003
9. Skottman H, Mikkola M, Lundin K, Olsson C, Tuuri T, Otonkoski T, Hovatta O, Lahesmaa R: Gene expression signatures of seven genetically independent human embryonic stem cells lines. *Stem Cells* 23:1343-1356, 2005
10. Gao R, Ustinov J, Korsgren O, Otonkoski T: In vitro neogenesis of human islets reflects the plasticity of differentiated human pancreatic cells. *Diabetologia*, 48:2296-2304, 2005
11. Otonkoski T, Näntö-Salonen K, Seppänen M, Veijola R, Huopio H, Hussain K, Tapanainen P, Eskola O, Parkkola R, Ekström K, Guiot Y, Rahier J, Rintala R, Nuutila P, Minn H: Noninvasive diagnosis of focal persistent hyperinsulinism of infancy with ¹⁸F- dopa positron emission tomography. *Diabetes* 55:13-18, 2006
12. Miettinen PJ, Ustinov J, Ormio P, Gao R, Palgi J, Hakonen E, Juntti-Berggren L, Berggren P-O, Otonkoski T: Downregulation of EGF receptor signalling in pancreatic islets causes diabetes due to impaired postnatal beta-cell growth. *Diabetes* 55:3299-3308, 2006
13. Gao R, Ustinov J, Korsgren O, Otonkoski T: Effects of immunosuppressive drugs on in vitro neogenesis of human islets. *Am J Transp.* 7:1021-1026, 2007
14. Otonkoski T, Banerjee M, Lundin K: Stem cells as a cure for diabetes. Chapter 14 in: Seino S (Ed) *Pancreatic beta cell in health and disease*. Springer, Tokyo. pp. 259-278, 2007
15. Otonkoski T, Jiao H, Kaminen-Ahola N, Tapia-Paez I, Ullah MS, Parton LE, Schuit F, Quintens R, Sipilä I, Mayatepek E, Meissner T, Halestrap AP, Rutter GA and Kere J: Physical exercise-induced hypoglycemia caused by failed silencing of monocarboxylate transporter 1 in pancreatic beta cells. *Am J Hum Genet* 81:467-74, 2007.

16. Virtanen I, Banerjee M, Palgi J, Korsgren O, Lukinius A, Kikkawa Y, Sekiguchi K, Hukkanen M, Konttinen YT, Otonkoski T: Blood vessels of human islets of Langerhans are surrounded by a double basement membrane. *Diabetologia* 51:1181-1191, 2008
17. Hanley NA, Piper Hanley K, Miettinen P, Otonkoski T: Weighing up beta cell mass in mice and humans: self renewal, progenitors or stem cell? *Molecular and Cellular Endocrinology*, 288:79-85, 2008
18. Miettinen P, Ormio P, Hakonen E, Banerjee M, Otonkoski T: EGF Receptor in pancreatic beta cell mass regulation. *Biochemical Society Transactions*, 36(Pt 3):280-285, 2008
19. Billestrup N, Otonkoski T: Dedifferentiation for replication of human beta-cells: a division between mice and men? *Diabetes* 57:1457-1458, 2008.