

BIOGRAPHICAL SKETCH

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NAME Hiroshi Saito, PhD		POSITION TITLE Assistant Professor	
eRA COMMONS USER NAME (credential, e.g., agency login) HSAITO			
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
University of Tokyo, Japan	B.S.	1982	Agricultural Chemistry
University of Tokyo, Japan	M.S.	1984	Molecular Cell Biology
University of Tokyo, Japan	Ph.D.	1987	Molecular Cell Biology
Baylor College of Medicine, Houston, TX	Postdoctoral Fellow	1987-1991	Cell Biology and Genetics

A. Positions and Honors**Positions and Employment**

1991-1992 Instructor, Dept. Molecular & Medical Genetics, Oregon Health Sciences Univ., Portland, OR
 1993-1994 Instructor, Dept. Internal Medicine, Univ. Arkansas for Medical Sciences, Little Rock, AR
 1994-2001 Research Associate (1994-1996), Research Assistant Professor (1996-2001) Dept. Human Biological Chemistry & Genetics, Univ. Texas Medical Branch (UTMB), Galveston, TX
 2001-2009 Assistant Professor in Research, Dept. Surgery, Univ. Texas Medical Branch, Galveston, TX
 2009-present Assistant Professor (tenure track), Dept. Surgery, University of Kentucky College of Medicine, Lexington, KY
 2011-present Assistant Professor, Dept. of Physiology, University of Kentucky College of Medicine,

Professional Memberships

Gerontological Society of America (member 1999-, Chair of the Biological Sciences Section Fellowship Committee 2007-2008; Chair of the GSA Fellowship Committee 2010-2011); Shock Society (member 2006-); American Aging Association (member 2009-); American Pancreatic Association (member 2010-)

Honors

Oregon Medical Research Foundation Research Award (1991)
 Fellow of the Sealy Center on Aging of University of Texas Medical Branch (1997)
 American Heart Association Texas Affiliate Grant-in-Aid Award (1997-1998)
 Elected Fellow of Gerontological Society of America (GSA) (2006)
 Charles T. Wethington Research Award, University of Kentucky (2011)

B. Selected Publications

Starr ME, Hu Y, Stromberg A, Carmical JR, Wood TG, Evers BM, **Saito H**. Age-associated changes in gene expression from mouse adipose tissue during systemic inflammation. *Submitted* (2012)

Starr ME, **Saito H**. Age-related increase in food spilling by laboratory mice may lead to significant overestimation of actual food consumption: Implications for studies on dietary restriction, metabolism and dose calculations. *J. Gerontology Biol. Sci.* (2012 *in press*)

Takahashi H, Okamura D, Starr ME, **Saito H**, Evers BM. Age-dependent reduction of the PI3K regulatory subunit p85 α causes loss of cell proliferation in pancreatic acinar cells. *Aging Cell* (2012 *in press*)

- Starr ME, Ueda J, Yamamoto S, Evers BM, **Saito H**. The effects of aging on pulmonary oxidative damage, protein nitration and extracellular superoxide dismutase down-regulation during systemic inflammation. *Free Radical Biology & Medicine* 50: 371-380 (2011)
- Starr ME, Ueda J, Takahashi H, Weiler H, Esmon CT, Evers BM, **Saito H**. Age-dependent vulnerability to endotoxemia is associated with reduction of anti-coagulant factors activated protein C and thrombomodulin. *Blood* 115: 4886-4893 (2010)
- Starr ME, Evers BM, **Saito H**. Age-associated increase in cytokine production during systemic inflammation: Adipose tissue as a major source of IL-6. *J. Gerontology Biol. Sci.*, 64A: 723-730 (2009)
- Ueda J, Starr ME, Takahashi H, Du J, Chang LY, Crapo JD, Evers BM, **Saito H**. Decreased pulmonary extracellular superoxide dismutase during systemic inflammation. *Free Radical Biology & Medicine* 45: 897-904 (2008)
- Watanabe H, **Saito H**, Nishimura H, Ueda J, Evers BM. Activation of phosphatidylinositol-3 kinase regulates pancreatic duodenal homeobox-1 in duct cells during pancreatic regeneration. *Pancreas* 36:153-159 (2008)
- Watanabe H, **Saito H**, Ueda J, Evers BM. Regulation of pancreatic duct cell differentiation by phosphatidylinositol-3 kinase. *Biochem. Biophys. Res. Comm.* 370:33-37 (2008)
- Izumi T, Brown DB, Naidu CV, Bhakat KK, Macinnes MA, **Saito H**, Chen DJ, Mitra S. Two essential but distinct functions of the mammalian abasic endonuclease. *Proc. Natl. Acad. Sci. U S A.* 102:5739-5743 (2005)
- Watanabe H, **Saito H**, Rychahou PG, Uchida T, Evers BM. Aging is associated with decreased pancreatic acinar cell regeneration and phosphatidylinositol 3-kinase/Akt activation. *Gastroenterology* 128:1391-1404 (2005)
- Ueda J, **Saito H**, Watanabe H, Evers BM. Novel and quantitative DNA dot-blotting method for assessment of in vivo proliferation. *Am. J. Physiol. Gastrointest. Liver. Physiol.* 288:G842-7 (2005)
- Hashimoto K, Ethridge RT, **Saito H**, Rajaraman S, Evers BM. The PPARgamma ligand, 15d-PGJ2, attenuates the severity of cerulein-Induced acute pancreatitis. *Pancreas* 27:58-66 (2003)
- Saito H**, Sherwood ER, Varma TK, Evers BM. Effects of aging on mortality, hypothermia, and cytokine induction in mice with endotoxemia or sepsis. *Mechanisms of Aging & Development* 124:1047-1058 (2003)
- Ethridge RT, Chung DH, Slogoff M, Ehlers RA, Hellmich MR, Rajaraman S, **Saito H**, Uchida T, Evers BM. Cyclooxygenase-2 gene disruption attenuates the severity of acute pancreatitis and pancreatitis-associated lung injury. *Gastroenterology* 123: 1311-1322 (2002)
- Saito H**, Papaconstantinou J. Age-associated differences in cardiovascular inflammatory gene induction during endotoxic stress. *J. Biological Chemistry* 276: 29307-29312 (2001)
- Saito H**, Patterson C, Hu Z, Runge MS, Tipnis U, Sinha M, Papaconstantinou J. Expression and self regulatory function of cardiac interleukin-6 during endotoxemia. *Am. J. Physiol. Heart Circ. Physiol.* 279:H2241-2248 (2000)
- Saito H**, Shultz LD, Sinha M, Papaconstantinou J. Induction of the alpha(1)-antichymotrypsin gene in the brain associated with TGF- β 1 deficiency or systemic administration of endotoxin. *Biochem. Biophys. Res. Commun.* 263:270-275 (1999)
- Saito H**, Papaconstantinou J, Sato H, Goldstein S. Regulation of a novel gene encoding a lysyl oxidase-related protein in cellular adhesion and senescence. *J. Biological Chemistry* 272:8157-8160 (1997)

C. Current Research Support**Active**

R01 AG039732 (PI: Saito, Hiroshi) 08/01/11-07/31/16
NIH/NIA

"*The Role of Adipose Tissue in Age-dependent Sensitivity to Critical Illness*"

Goals: 1) To define the role of adipose tissue in age-related alterations of coagulation during critical illness; 2) to understand the mechanisms of age-related inflammatory cytokine production in the adipose tissue during critical illness; 3) to evaluate methods of body fat loss as potential therapies and preventative measures for reducing severity of critical illness in the aged.

Priority Score 18, 5.0 Percentile, reviewed by SRG on March 4, 2011.

R01 AG025908 (PI: Hiroshi Saito) 05/15/05-04/30/12 (no cost extension)
NIH/NIA

"*Vulnerability to Sepsis in Old Age*"

Goals: 1) To determine the effects of aging on the pathophysiology of sepsis; 2) to identify the age-associated alterations in gene expression that affects mortality in sepsis; 3) to test likely strategies for their ability to decrease age-associated mortality in sepsis.

R01 AG025273 (PI: B. Mark Evers) 09/01/05-08/31/12 (no cost extension)
NIH/NIA

"*Surgical Studies of Aging and the Gut*"

Goals: 1) To define the age-associated alteration of colonic growth and PI3K/Akt pathway activation; 2) To determine alterations in proliferation and expression patterns of isolated colonic crypts and stem cells with aging; 3) To elucidate the role of IGF-1 and its receptor on altered PI3K/Akt expression and proliferation.

Role on Project: Co-Investigator

Recently completed

CMN Research Grant (PI: Hiroshi Saito) 10/01/2009-11/30/2011
Children's Miracle Network

"*Risk of Carcinogenic Exposure at Early Stage of Life*"

Goal: To provide evidence that gene mutation(s) in very early life effectively trigger colorectal cancer in later adult life.

R36 AG038547 (PI: Marlene E. Starr) 2/15/2011-5/31/2011
NIH/NIA

"*The Role of Adipokines in Age-Related Sensitivity to sepsis*"

Goal: 1) To determine which adipokines are involved in age-associated differences during systemic inflammation; 2) to understand the mechanisms by which adipokines contribute to this age-associated difference in systemic inflammation; 3) to test interventions for improving age-related vulnerability to systemic inflammation through decreases in adipose tissue by surgical removal or dietary restriction.

Role on Project: Mentor

P01 DK035608 (PI: Courtney M. Townsend, Jr) 06/01/05-06/30/11 (no cost extension)
NIH/NIDDK

"*Studies in Gastrointestinal Endocrinology*"

Project 1 "Effect of Aging on Pancreatic Function" (PI: B. Mark Evers)

Goals: 1) To determine the role of the PI3K/Akt pathway in the age-associated alteration of pancreatic growth; 2) to elucidate the role of IGF-1 and its receptor on altered PI3K/Akt expression and proliferation; 3) to further delineate alterations in the PI3K/Akt signaling pathway and upstream effector proteins in isolated acinar cells from young and aged pancreas.

Role on Project: Co-Investigator in Project 1