
BIOGRAPHICAL SKETCH

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NAME: Sihem Boudina

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Assistant Professor of NutritionHealth, University of Utah

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

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of Science and Technology, Algeria	B.Sc.	05/1997	Animal Physiology and Biochemistry
Universite Victor Segalen Bordeaux 2	M.Sc.	05/1998	Neuroscience and Neuropharmacology
Universite Victor Segalen Bordeaux 2	Ph.D.	05/2002	Biological and Medical Sciences

A. Personal Statement

The broad area of research that I am interested in is obesity and cardiovascular disease (CVD). My group is particularly focused on deciphering the cellular events and the molecular mechanisms regulating adipose stem cells recruitment and differentiation. The overarching goal of our research is to understand the basic regulation of adipose stem cell function and to identify factors that can be used to reprogram these cells into energetically more active cells for the treatment of obesity.

As obesity is a risk factor for CVD, we are also interested in understanding this condition affects the myocardium. Particularly, we focus on the impact of insulin resistance, a condition that precedes obesity, on cardiac autophagy and cardioprotection. I have extensive experience in cardiac metabolism and mitochondrial energetics as evidenced by more than 32 high profile publications in this field. Indeed, my work is highly cited and recognized such as the discovery of enhanced fatty-acid mediated mitochondrial uncoupling as a mechanism for decreased cardiac efficiency in the heart of obese type 2 diabetic mice (Boudina et al., *Circulation* 2009; Boudina et al., *Diabetes* 2012). As a middle-career investigator new to the field of stem cells and adipose biology, I have published 5 publication in this field in the last 4 years and obtained NIH funding to develop my research program.

B. Positions and Honors

Positions and Employment

2008-2010	Research Track Assistant Professor, Division of Endocrinology, Diabetes and Metabolism. University of Utah, Salt Lake City, Utah
2010-2015	Tenure Track Assistant Professor, Division of Endocrinology, Diabetes and Metabolism, University of Utah, Salt Lake City, Utah
2016-	Tenure Track Assistant Professor, Department of Nutrition and Integrative Physiology, Utah

Other Experience and Professional Memberships

2016- Grant Review Committee/Study Section, Reviewer Diabetes UK

Honors

1997-2001 Algeria-France Exchange Scholarship, Ministry of Higher Education, Algeria
2001 Research Award "Groupe de Reflexion pour la Recherche Cardiovasculaire (GRRC)", France
2002 Research Award "La Fondation pour la Recherche Medicale (FRM)", France
2003 Trainee Abstract Travel Award, American Heart Association Scientific Session 2003, Orlando
2004-2006 Post-Doctoral Fellowship Award, Juvenile Diabetes Foundation (JDRF)
2006 Trainee Abstract Travel Award, American Heart Association Scientific Session 2006, Chicago
2006-2008 Post-Doctoral Fellowship Award, American Heart Association (AHA) – Western Affiliates

C. Contribution to Science

D. Research Support

Ongoing Research Support

07/01/13-06/30/18

National Institute of Diabetes and Digestive and Kidney Diseases
Post-developmental adipocyte autophagy
Role: Co-Investigator. Graham TE (PI)

Boudina (PI) 09/01/13-08/31/18

National Institute of Diabetes and Digestive and Kidney Diseases
Novel pathways for fat burning that protect from high fat diet-induced metabolic disturbances in mice with targeted deletion of manganese superoxide dismutase (MnSOD) in mature adipocytes
Role: Principal Investigator

07/01/15-06/30/17

American Heart Association Western States Affiliate
Fellowship: Karla M. Pires
Role: Mentor

Boudina (PI) 01/01/16-06/23/18

American Heart Association
Functional Characterization of Novel Visceral Adipose Tissue Progenitors
Role: Principal Investigator

Boudina (PI) 04/01/16-03/31/17

VA Salt Lake City Health Care System
Ipa Boudina, Sihem Fy17
Role: Principal Investigator

Boudina (PI) 07/01/16-06/30/17
University of Utah Funding Incentive Seed Grant
The Role of Oct1 in Brown/Beige Adipogenesis
Role: Principal Investigator

Boudina (PI) 09/01/16-08/31/18
NIH National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
Mnsod In Mature Adipocytes
Role: Principal Investigator

10/01/16-09/30/21
National Heart, Lung, and Blood Institute
Autophagy maintains vascular function through a novel glycolysis-linked pathway regulating eNOS
Role: Co-Investigator
Status: Pending

Completed Research Support

Boudina (PI) 02/01/04 - 01/31/06
Juvenile Diabetes Research Foundation
Post-Doctoral Fellowship Award: Mechanisms for Mitochondrial Dysfunction in the Diabetic Heart. Mentor E. Dale Abel MD Ph.D.
Role: Principal Investigator

Abel; Boudina (PIs) 07/01/06 - 06/30/08
American Heart Association
Post-Doctoral Fellowship Award: Mechanisms for Impaired Cardiac Efficiency in Insulin Resistance and Diabetes
Role: Principal Investigator

Benjamin; Boudina (PIs) 05/01/08 - 04/30/12
National Institutes of Health
Mechanisms of HSPB2 in Cardiac Metabolism and Ischemic Cardioprotection. 1 R01HL074370-01.
Direct Costs: \$1,343,750 Total costs: \$1,974,875
Role: Co-Principal Investigator

Boudina (PI) 07/01/08 - 06/30/10
University of Utah Center on Aging
Role of the Insulin Signaling Pathway on Mammalian Cardiac Aging
Role: Principal Investigator

Benjamin (PI) 10/01/08 - 09/30/12

Veterans Affairs Merit Review Award
Conditional HSF1 Expression for Ischemic Cardioprotection
Role: Co-Investigator

05/01/09 - 04/30/11

National Heart, Lung, and Blood Institute
Reductive Stress in the Pathogenesis of R120GCryAB Cardiomyopathy
Role: Co-Investigator

Boudina (PI) 07/01/09 - 06/30/13
American Heart Association
Mechanisms by Which ROS Regulate Adipogenesis and Fat Expansion in Diet-Induced
Obesity
Role: Principal Investigator

01/01/12 - 06/30/14

National Heart, Lung, and Blood Institute
U54 HL112311-01. Weyrich (PI)
University of Utah Molecular Medicine Translational Research Center in Thrombosis
Role: Co-investigator

06/01/12 - 08/31/12

American Heart Association Western States Affiliate
Fellowship For R. Manzanares
Role: Mentor