

# Curriculum Vitae

**DATE PREPARED:** September 15, 2017

**Name:** Yumiko Oishi, MD, PhD

**Associate Professor, Department of Cellular and Molecular Medicine, Medical Research Institute,  
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**Sex:** Female

**Place of Birth:** Kanagawa, Japan

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**Education and Degree:**

1992– 1998	Gunma University, (Maebashi, Japan) M.D. (summa cum laude), Gunma University
2002 – 2006	University of Tokyo Graduate School of medicine (Tokyo, Japan) Ph.D., Tokyo University

**Professional Experience:**

1998-1999	Resident, Internal Medicine, Department of Internal Medicine, Gunma University Hospital, Maebashi
1999- 2000	Resident, Department of Internal Medicine, Takasaki National Hospital, Takasaki
2000- 2001	Attending Physician, Department of Cardiovascular Medicine, Sakakibara Heart Institute, Tokyo
2001-2002	Fellow in cardiovascular medicine, University of Tokyo Graduate School of Medicine , Tokyo
2006-2007	Senior Research Fellow, Clinical Nutrition Program, National Institute of Health and Nutrition
2007-2008	Japan Society for the Promotion of Science (JSPS) Fellow
2008-2009	Project Assistant Professor, Translational Systems Biology and Medicine Initiative, Graduate School of Medicine, The University of Tokyo
2009-2011	Postdoctoral Research scholar, Department of Cellular and Molecular Medicine, School of Medicine, University of California, San Diego Laboratory of Dr. Christopher K. Glass

### **Licensure and Certification:**

1996	National Board for Medical Practice
2002	Board Certified Member of the Japanese Society of Internal Medicine
2007	Fellow of the Japanese Circulation Society

### **Research Experience:**

1996-1998	Calcium signaling on cellular growth, performed at the Institute for molecular and cellular regulation, Gunma University
2000-2001	Clinical study regarding the natural course of arterial sclerosis, Sakakibara Heart Institute
2001-2002	Effects of PPAR agonists on vascular smooth muscle cells, Department of Cardiovascular medicine, University of Tokyo
2002-2005	Transcription factor network of adipocyte differentiation, The University of Tokyo Graduate School of Medicine, Tokyo
2006-2009	Molecular mechanisms of metabolic syndrome, focusing on the function of Kruppel-like factor 5 (KLF5) in the regulation of fatty acid oxidation in skeletal muscle, The University of Tokyo
2009-February 2013	Interplay between Toll-like receptor and Nuclear receptor signaling in macrophage biology, Department of Cellular and Molecular Medicine, University of California, San Diego
March 2013-present	Molecular mechanisms of noncommunicable disease and sarcopenia (age related skeletal muscle loss), Department of Cellular and Molecular Medicine, Medical Research Institute, Tokyo Medical and Dental University

### **Editorial Board**

Science publishing group "RNA and Transcription" editorial board  
Frontiers publishing group "Frontiers in cardiovascular research" editorial board

### **Membership**

Member of the multidisciplinary bioscience Tokyo consortium (since August 2014~)  
Member of the Public Affair board, Medical Research Institute, TMDU (since August 2014~)

## Bibliography

### List of Publications

#### <original articles>

1. **Oishi Y**, Spann, NJ, Link VM, Muse ED, Strid T, Edillor C, Kolar MJ, Matsuzaka T, Hayakawa S, Tao J, Kaikkonen M, Carlin A, Lam MT, Manabe I, Shimano H, Saghatelian A and Glass CK. SREBP1 contributes to resolution of pro-inflammatory TLR4 signaling by reprogramming fatty acid metabolism. *Cell Metab* 25:412-427, 2017. **(corresponding author)**
2. **Oishi Y**, Hayashi S, Isagawa T, Oshima M, Iwama A, Shimba S, Okamura H and Manabe I. Bmal1 regulates inflammatory responses in macrophages by modulating enhancer RNA transcription. *Sci Rep* 7:7086, 2017
3. Hayashi S, Manabe I, Suzuki Y, and **Oishi Y**. Klf5 regulates muscle differentiation by directly targeting muscle specific genes in cooperation with MyoD in mice. *eLife*, DOI: <http://dx.doi.org/10.7554/eLife.17462>, 2016. **(corresponding author)**
4. Hachiya, R, Shiihashi T, Shirakawa I, Iwasaki Y, Matsumura Y, **Oishi Y**, Nakayama Y, Miyamoto Y, Manabe I, Tanaka M, Goda N, Sakai J, Suganami T, and Ogawa Y. The H3K9methyltransferase Setdb1 regulates TLR4-mediated inflammatory responses in macrophages *Sci Rep* 2016; 28;6:28845
5. Hayakawa S, Saito K, Miyoshi N, Ohishi T, **Oishi Y**, Isemura M, and Nakamura Y. Anti-Cancer Effects of Green Tea by Either Anti- or Pro- Oxidative Mechanisms. *Asian Pc J Cancer Prev* 17 (4): 1649-54, 2016
6. Shen H, Eguchi K, Kono N, Fujiu K, Shibata M, **Oishi-Tanaka Y**, Komuro I, Arai H, Nagai R, and Manabe I. The saturated fatty acid palmitate aggravates neointima formation by promoting smooth muscle phenotypic modulation. *Arterioscler Thromb Vasc Biol* 33, 2596-2607, 2013.
7. Lam M, Cho H, Lesch H, Heinz S, **Oishi-Tanaka Y**, Benner C, Kaikkonen M, Salim A, Rosenfeld M, Evans R, and Glass CK. Rev-Erbs negatively regulate macrophage gene expression by repressing enhancer-directed transcription. *Nature* 498, 511-515, 2013
8. Eguchi K, Manabe I, **Oishi-Tanaka Y**, Osugi M, Kono N, Ogata F, Yagi N, Ohto U, Kimoto M, Miyake K, Tobe K, Arai H, Kadowaki T, and Nagai R. Saturated fatty acid and TLR signaling link  $\beta$  cell dysfunction and islet inflammation. *Cell Metab* 15: 518-533, 2012
9. **Oishi-Tanaka Y**, Glass CK. A new role for cyclic phosphatidic acid as a PPAR $\gamma$  antagonist. *Cell Metab* 12: 207-208, 2010
10. **Oishi Y**, Manabe I, Imai Y, Hara K, Horikoshi M, Fujiu K, Tanaka T, Aizawa T, Kadowaki T, Nagai R. Regulatory polymorphism in transcription factor KLF5 at the MEF2 element alters the response to angiotensin II and is associated with human hypertension. *FASEB J* 24: 1780-1788, 2010
11. Yagi N, Manabe I, Tottori T, Ishihara A, Ogata F, Kim J. H, Fujiu K, **Oishi Y**, Itaka K, Kato Y, Yamauchi M, Nagai R. A nanoparticle system specifically designed to deliver short interfering RNA inhibits tumor growth in vivo. *Cancer Res* 69: 6531-8, 2009
12. **Oishi Y**, Manabe I, Tobe K, Osugi, M, Kubota T, Fujiu K, Maemura K, Kubota N, Kadowaki T, Nagai R. SUMOylation of KLF5 is a molecular switch regulating PPAR- $\delta$ -containing transcriptional programs of lipid metabolism. *Nat Med* 14: 656-666, 2008
13. Nishimura G, Manabe I, Tsushima K, Fujiu K, **Oishi Y**, Imai Y, Maemura K, Miyagishi M, Higashi Y, Kondoh H, Nagai R.  $\delta$ EF1 mediates TGF- $\beta$  signaling in vascular smooth muscle cell differentiation. *Dev Cell* 11:93-104, 2006

14. Kamei N, Tobe K, Suzuki R, Ohsugi M, Watanabe T, Kubota N, Kumagai K, Sakamoto K, Kobayashi M, Yamauchi T, Ueki K, **Oishi Y**, Nishimura S, Manabe I, Hashimoto H, Ohnishi Y, Ogata H, Tokuyama K, Tsunoda M, Murakami K, Nagai R, Kadowaki T. Overexpression of MCP-1 in adipose tissues causes macrophage recruitment and insulin resistance. *J Biol Chem* 281: 26602-26614, 2006
15. **Oishi Y**, Manabe I, Tobe K, Tsushima K, Shindo T, Fujiu K, Nishimura G, Maemura K, Yamauchi T, Kubota N, Suzuki R, Kitamura T, Akira S, Kadowaki T, Nagai R. Krüppel-like transcription factor KLF5 is a key regulator of adipocyte differentiation. *Cell Metab* 1:27-39, 2005
16. Fujiu K, Manabe I, Ishihara A, **Oishi Y**, Iwata H, Nishimura G, Shindo T, Maemura K, Kagechika H, Shudo K, Nagai R. Synthetic retinoid Am80 suppresses smooth muscle phenotypic modulation and in-stent neointima formation by inhibiting KLF5. *Circ Res* 97: 1132-1141, 2005
17. Hiroi Y, Fujiu K, Komatsu S, Sonoda M, Sakomura Y, Imai Y, **Oishi Y**, Nakamura F, Ajiki K, Hayami N, Murakawa Y, Ohno M, Hirata Y, Ohtomo K, Nagai R. Carvedilol therapy improved left ventricular function in a patient with arrhythmogenic right ventricular cardiomyopathy. *Jpn Heart J* 45: 169-77, 2004
18. **Oishi Y**, Sando Y, Tajima S, Maeno T, Maeno Y, Sato M, Hosono T, Suga T, Kurabayashi, Nagai R. Indomethacin induced bulky lymphadenopathy and eosinophilic pneumonia. *Respirology* 6:57-60, 2001
19. **Oishi Y**, Arai M, Kiraku J, Doi H, Uchiyama T, Hasegawa A, Kurabayashi M, Nagai R. Unclassified connective tissue disease presenting as cardiac tamponade: a case report. *Jpn Circ J* 64: 619-22, 2000
20. Nie L, **Oishi Y**, Doi I, Shibata H, Kojima I. Inhibition of proliferation of MCF-7 breast cancer cells by a blocker of Ca<sup>2+</sup>-permeable channel. *Cell Calcium* 22, 75-82, 1997

#### <Reviews>

1. Oishi Y and Manabe I. Macrophages in age-related chronic inflammatory diseases. *Aging and Mechanisms of Disease*, 2016 : doi:10.1038/npjamd.2016.18 (**corresponding author**)
2. **Oishi Y** and Manabe I. Immunometabolic control of homeostasis and inflammation. *Inflammation and Regeneration* 35(4)185-192, 2015 (**corresponding author**)
3. **Oishi Y** and Manabe I. Integrated regulation of cellular metabolism and function of immune cells in adipose tissue inflammation *Clin Exp Pharmacol Physiol* 43:294-303, 2016 (**corresponding author**)

## **Awards and Honors:**

1. The 39th Annual Meeting of the Molecular Biology Society of Japan, Best Poster award (2016)
2. Young Investigator Award, TMDU (2016)
3. Young Investigator Award, TMDU (2015)
4. The 4th Banyu Medical research Award (2015)
5. The 4th Molecular Cardiovascular Conference II Best abstract award (2013)
6. The 73th Annual meeting for the Japanese Circulation Society, Yagi Award (2009)
7. The 9<sup>th</sup> US-Japan Asia Dialogue on Cardiovascular Diseases (2008) Best presenter award
8. Keystone Symposia scholarship, Molecular Control of Adipogenesis and Obesity (2008)
9. The 23rd Okamoto Award for Young investigators (2008)
10. The 45th Japanese Society of Molecular Medicine Young Investigator Award (2008)
11. American Heart Association 2007, ATVB Merit Award for Young Investigators (2007)
12. The 18th Molecular Diabetes Symposium Young Investigator Award (2007)
13. The 79th Japan endocrine society meeting Young Investigator Award (2006)
14. XIVth International Vascular biology Meeting Young Investigator Award (2006)
15. 5th Asian Pacific Society of Atherosclerosis and Vascular Disease  
Young Investigator Award, 1st prize (2006)
16. Tokyo Medical Association Medical Research Award (2006)
17. 7th European Congress of Endocrinology EFES Young Investigator Award (2005)
18. XIIIth International Vascular biology Meeting Young Investigator Award (2005)

## **Patents**

1. Patent pending (domestic, reference #2017-049827)

Inventors: Yumiko Oishi and Sumio Hayakawa,

Title of invention: Nuclear acid processing methods that regulate immune response

2. Patent pending (domestic, reference #2017-121787)

Inventors: Yumiko Oishi and Shinichiro Hayashi

Title of invention: Novel method to culture muscle satellite cells *in vitro*

3. Pat. 4527428 (domestic)

Inventors: Ryoza Nagai, Ichiro Manabe and Yumiko Oishi

Application date: March 31, 2004

Title of invention: Screening method of the therapeutic compounds and the diagnostic approach of the metabolic syndrome