

CURRICULUM VITAE

Name: Shingo Kajimura, PhD
Position: Assistant Professor, Step 4
University of California, San Francisco
Department of Cell and Tissue Biology
UCSF Diabetes Center
Eli and Edythe Broad Center of Regeneration Medicine and Stem Cell Research

Address: 35 Medical Center Way, Room 1023
University of California, San Francisco
San Francisco, CA 94143-0669

Phone: (415) 476-9644
FAX: (415) 514-2346
email: skajimura@diabetes.ucsf.edu
www: <http://kajimuralab.ucsf.edu>

EDUCATION:

1996-2000	The University of Tokyo, Japan	B.A.	Biology
2000-2003	The University of Tokyo, Japan	M.S.	Physiology
2003-2006	The University of Tokyo, Japan	Ph.D.	Development/Cell Biology
2006-2008	Harvard Medical School, Boston	Post-doc	Metabolism

PRINCIPAL POSITIONS HELD:

2009-2011	Harvard Medical School, Boston	Instructor
2011-present	University of California, San Francisco	Assistant Professor

HONORS AND AWARDS:

2000	Dean Amemiya Honor Award, The University of Tokyo
2000	Crown Prince Akihito Scholar
2003-2005	JSPS Graduate Student Fellowship The Japanese Society for the Promotion of Science for Young Scientists
2006	Aubrey Gorbman Award for Graduate Student The Society for Integrative and Comparative Biology
2007	Astellas Foundation Award for Research Abroad on Metabolic Disorders
2007	Mochida Memorial Foundation Award for Research Abroad
2007-2009	JSPS Research Fellowship for Research Abroad
2009	American Heart Association, Scientist Development Award
2010	NIH Pathway to Independence K99/R00
2011	BD Biosciences Stem Research Award
2013	Pew Scholar
2013	The Ellison Medical Foundation on New Scholar Award in Aging (declined)

PROFESSIONAL ORGANIZATIONS:

2010-Present, American Diabetes Association

KEYWORDS/AREAS OF INTEREST:

Obesity, metabolic syndrome, insulin resistance, diabetes, adipocyte development, stem cell, transcriptional regulation, mitochondrial biogenesis, chromatin, epigenetics

PEER REVIEWED PUBLICATIONS:

1. Ohno, H., Shinoda, K., Ohyama, K., Sharp, L.Z. & **Kajimura, S.** (2013). EHMT1 controls brown adipose cell fate and thermogenesis through the PRDM16 complex. *Nature* DOI 10.1038/nature12652
2. **Kajimura, S.** & Saito, M. (2013). A New Era in BAT Biology: Molecular control of brown fat development and energy homeostasis. *Annual Review of Physiology* (In press)
3. Gilsanz, V., Hu, H.H. & **Kajimura, S.** (2013). Relevance of brown adipose tissue in infancy and adolescence. *Pediatric Research* (1):3-9. PMC3614088
4. Liisberg-Aune, U. Ruiz, L. & **Kajimura, S.** (2013). Isolation of stromal vascular cells and differentiation of preadipocytes to beige/brite cells. *The Journal of Visualized Experiments* doi: 10.3791/50191.
5. Ohno, H., Shinoda, K., Spiegelman, B.M. & **Kajimura, S.** (2012). PPAR γ agonists induce a white-to-brown fat conversion through stabilization of PRDM16 protein. *Cell Metabolism* 15(3), 395-404. PMC3410936
6. Sharp, L.Z., Shinoda, K., Ohno, H., Scheel, D.W., Tomoda, E., Ruiz, L., Hu, H., Wang, L., Pavlova, Z., Gilsanz, V. & **Kajimura, S.** (2012). Human BAT possesses molecular signatures that resemble beige/brite cells. *PLOS One* 7(11):e49452. PMC3500293
7. Kang S., Akerblad P., Kiviranta, R., Gupta R.K., **Kajimura S.**, Griffin M.J., Baron R., and Rosen E.D. (2012). Regulation of Early Adipose Commitment by Zfp521. *PLOS Biology* Nov;10(11):e1001433.
8. Boström, P., Wu, J., Jedrychowski, M.P., Korde, A., Ye, L., Lo, J., Rasbach, K.A., Boström, E.A., **Kajimura, S.**, Zingaretti, M.C., Vind, B.F., Tu, H., Cinti, S., Højlund, K., Gygi, S.P. & Spiegelman, B.M. (2012). A PGC1 α -dependent myokine that drives browning of white fat and thermogenesis. *Nature* 481(7382), 463-468. PMC3522098
9. Koncarevic, A., **Kajimura, S.**, Cornwall-Brady, M., Andreucci, A., Pullen, A., Davies, M., Sako, D., Liu, J., Kumar, R., Burton, R., Tomkinson, K., Baker, T., Umiker, B., Monnell, T., Grinberg, A.V., Liharska, K., Underwood, K.W., Ucran, J.A., Howard, E., Barberio, J., Spaitis, M., Spiegelman, B.M., Sehra, J. & Lachey, J. (2012). A novel therapeutic approach to treating obesity through modulation of TGF β signaling. *Endocrinology* 153(7), 3133-3146. PMID 22549226
10. Seale, P., Conroe, H, Estall, J.L, **Kajimura, S.**, Frontini, A, Ishibashi, J, Cohen, P, Cinti, S. & Spiegelman, B.M. (2011). Prdm16 determines the thermogenic program of subcutaneous white adipose tissue. *Journal of Clinical Investigation* 121(1), 96-105. PMC3007155
11. Kamei, H., Ding, Y., **Kajimura, S.**, Wells, M., Chiang, P. & Duan, C. (2011). Role of IGF signaling in catch-up growth and accelerated temporal development in zebrafish embryos in response to oxygen availability. *Development* 138(4), 777-786. PMID21266413
12. Choi, J.H., Banks, A.S.* , Estall, J.L.* , **Kajimura, S.***, Boström, P., Laznik, D., Ruas, J.L., Chalmers, M.J., Kamenecka, T.M., Blüher, M., Griffin, P.R. & Spiegelman B.M. (2010). Anti-diabetic drugs inhibit obesity-linked phosphorylation of PPAR γ by Cdk5. *Nature* 466(7305), 451-456. (* equal contribution) PMC2987584
13. **Kajimura, S.**, Seale, P. & Spiegelman B.M. (2010). Transcriptional control of brown fat development. *Cell Metabolism* 11(4), 257-262. PMC2857670

14. **Kajimura, S.**, Seale, P., Kubota, K., Lunsford, E., Frangioni, J.V., Gygi, S.P. & Spiegelman B.M. (2009). Initiation of myoblast to brown fat switch by a PRDM16-C/EBP- β transcriptional complex. *Nature* 460(7259), 1154-1158. PMC2754867
15. Seale, P, **Kajimura, S.** & Spiegelman, B.M. (2009). Transcriptional control of brown adipocyte development and physiological function--of mice and men. *Genes and Development* 23(7), 788-797. PMC2763499
16. Seale, P., Bjork, B., Yang, W., **Kajimura, S.**, Kuang, S., Scime, A., Devarakonda, S., Chin, S., Conroe, H., Rudnicki, M.A., Beier, D.R. & Spiegelman, B.M. (2008). PRDM16 controls a brown fat/skeletal muscle developmental switch. *Nature* 454(7207), 961-967. PMC2583329
17. **Kajimura, S.**, Seale, P., Tomaru, T., Erdjument-Bromage, H., Cooper, M.P., Ruas, J.L., Chin, S., Tempst, P., Lazar, M.A. & Spiegelman, B.M. (2008). Regulation of the brown and white fat gene programs through a PRDM16/CtBP transcriptional complex. *Genes and Development* 22(10), 1397-1409. PMC2377193
18. Seale, P*, **Kajimura, S***, Yang W., Chin, S., Rohas, L.M., Uldry, M., Tavernier, G., Langin, D. & Spiegelman, B.M. (2007). Transcriptional control of brown fat determination by PRDM16. *Cell Metabolism* 6(1), 38-54. PMC2564846 (* co-first author)
19. Cooper, M.P., Uldry, M., **Kajimura, S.**, Arany, Z. & Spiegelman, B.M. (2008). Modulation of PGC-1 coactivator pathways in brown fat differentiation through LRP130. *J. Biol. Chem.* 283(46), 31960-31967. PMC2581541
20. **Kajimura, S.** & Duan, C. (2007). Insulin-like growth factor-binding protein-1: an evolutionarily conserved fine tuner of insulin-like growth factor action under catabolic and stressful conditions. *J. Fish. Biol.* 71, 309-325.
21. Takahashi, H., Prunet, P., Kitahashi, T., **Kajimura, S.**, Hirano, T., Grau, E.G. & Sakamoto, T. (2007). Prolactin receptor and proliferating/apoptotic cells in esophagus of the mozambique tilapia in fresh water and in seawater. *Gen. Comp. Endocrinol.* 152(2), 326-331. PMID17418192
22. **Kajimura, S.**, Aida, K. & Duan, C. (2006). Understanding hypoxia-induced gene expression in early development: *In vivo* and *in vitro* analysis of HIF-1-regulated zebrafish IGFBP-1 gene expression. *Mol. Cell. Biol.* 26(3), 1142-1155. PMC1347021
23. **Kajimura, S.**, Aida, K. & Duan, C. (2005). IGF binding protein-1 mediates hypoxia-induced embryonic growth retardation and developmental delay. *Proc. Natl. Acad. Sci. U S A.* 102(4), 1240-1245. PMC545835
24. **Kajimura, S.**, Seale, A.P., Hirano, T., Cooke, I.M. & Grau, E.G. (2005). Physiological concentrations of ouabain rapidly inhibit prolactin release from the tilapia pituitary. *Gen. Comp. Endocrinol.* 143(3), 240-250. PMID15922343
25. **Kajimura S.**, Kawaguchi N., Kaneko T., Kawazoe I., Hirano T., Visitacion N., Grau E.G., Aida K. (2004). Identification of the growth hormone receptor in an advanced teleost, *Oreochromis mossambicus*: with special reference to its distinct expression pattern in the ovary. *J. Endocrinol.* 181(1), 65-76. PMID15072567
26. **Kajimura, S.**, Hirano, T., Moriyama, S., Vakkuri, O., Leppaluoto, J., Hirano, T. & Grau, E.G. (2004). Changes in plasma concentrations of immunoreactive ouabain in the tilapia in response to changing salinity: Is ouabain a hormone in fish? *Gen. Comp. Endocrinol.* 135(1), 90-99. PMID14644648
27. **Kajimura S.**, Hirano T., Visitacion N., Moriyama S., Aida K., Grau E.G. (2003). Dual mode of cortisol action on GH/IGF-I/IGFBPs in the tilapia, *Oreochromis mossambicus*. *J. Endocrinol.* 178(1), 91-99. PMID 12844340

28. Uchida, K., Yoshikawa-Ebesu, J.S., **Kajimura, S.**, Yada, T., Hirano, T. & Grau, E.G. (2004). *In vitro* effects of cortisol on the release and gene expression of prolactin and growth hormone in the tilapia, *Oreochromis mossambicus*. **Gen. Comp. Endocrinol.** 135(1), 116-125. PMID14644651
29. Uchida, K., **Kajimura, S.**, Riley, L.G., Hirano, T., Aida, K. & Grau, E.G. (2003). Effects of fasting on growth hormone/insulin-like growth factor I axis in Mozambique tilapia, *Oreochromis mossambicus*. **Comp. Biochem. Physiol. A.** 134(2), 429-439. PMID: 12547273
30. Seale, A.P., Riley, L.G., Leedom, T.A., **Kajimura, S.**, Dores, R.M., Hirano, T. & Grau E.G. (2002). Effects of environmental osmolality on release of prolactin, growth hormone and ACTH from the tilapia pituitary. **Gen. Comp. Endocrinol.** 128(2), 91-101. PMID12392682
31. Yada, T., Uchida, K., **Kajimura, S.**, Azuma, T., Hirano, T. & Grau E.G. (2002). Immunomodulatory effects of prolactin and growth hormone in immune system in the tilapia, *Oreochromis mossambicus*. **J. Endocrinol.** 173(3), 483-492. PMID12065238
32. **Kajimura, S.**, Uchida, K., Yada, T., Aida, K., Hirano, T. & Grau E.G. (2002). Effects of insulin-like growth factors (IGF-I and -II) on growth hormone and prolactin release and gene expression in euryhaline tilapia, *Oreochromis mossambicus*. **Gen. Comp. Endocrinol.** 127(3), 223-231. PMID12225763
33. **Kajimura, S.**, Uchida, K., Yada, T., Riley, L.G., Byatt, J.C., Collier, R.J., Aida, K., Hirano, T. & Grau E.G. (2001). Stimulation of insulin-like growth factor-I production by recombinant bovine growth hormone in the euryhaline tilapia, *Oreochromis mossambicus*. **Fish Physiol. Biochem.** 25(1), 221-230.
34. **Kajimura, S.**, Yoshiura, Y., Suzuki, M., Utoh, T., Hiroe, N., Oka, H. & Aida, K. (2001). Changes in mRNA levels of gonadotropin Ibeta and IIbeta subunits during vitellogenesis in the common Japanese conger. **Fisheries Science** 67(1), 1053-1062.
35. **Kajimura, S.**, Yoshiura, Y., Suzuki, M. & Aida K. (2001). cDNA cloning of two gonadotropin beta subunits (GTH-Ibeta and -IIbeta) and their expression profiles during gametogenesis in *Paralichthys olivaceus*. **Gen. Comp. Endocrinol.** 122(2), 117-129. PMID11316417

PATENTS ISSUED:

1. Publication No. WO/2010/080985; U.S. Provisional Application No. 61/204,607; International Application No. PCT/US2010/020480, Kajimura S. and Spiegelman B.M. "Compositions and methods for induced brown fat differentiation." Published on July 15 2010
2. Publication No. WO/2011/091134; International Application No. PCT/US2011/021855, Choi, J.Y., Kajimura S., Banks, A., and Spiegelman B.M. "Compositions, kits, and methods for identification, assessment, prevention and therapy of metabolic disorders." Published on July 28 2010