TARA

Life Science Center for Survival Dynamics
Tsukuba Advanced Research Alliance

TARA Seminar

15：30～, Friday, May 25, 2018

Seminar room, Building A, TARA Center

Tae-Hwa Chun, MD, PhD

Associate Professor, Internal Medicine,
University of Michigan, U.S.A.

Adipose and muscle extracellular matrix remodeling in obesity

Extracellular matrix (ECM) undergoes dynamic remodeling in development and diseases. In obesity, white adipose tissue (WAT) expands through active ECM remodeling engaging a cohort of matrix metalloproteinase (MMP) family members. Our recent study suggests that a basic helix-loop-helix transcription factor, TCF21, expressed in $Sca1^{+}$ $PDGFRA^{+}$ stromal cells directs MMP expression, collagen deposition, and IL6 production critical for visceral WAT function. Similarly, fibro-adipogenic ECM remodeling in skeletal muscles, mediated by $PDGFRA^{+}$ stromal cells, plays a critical role in obesity-associated muscle dysfunction. Transcriptional and post-translational regulation of ECM remodeling may define the pathophysiological consequence of nutritional stress and obesity.

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Barnes RH, *et al.* ***J. Am. Heart Assoc.*** 6, pii: e003693 (2017)

Tokunaga M, *et al.* ***Matrix Biol.*** 36:28-38 (2014)

Inoue M, *et al.* ***Endocrinol.*** 154, 4548-4559 (2013)

Chun TH, *et al.* ***Diabetes*** 59, 2484-2494 (2010)

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Contact : Akiyoshi Fukamizu, akif＠tara.tsukuba.ac.jp (Tel : 029-853-6070)

This seminar will be held as a part of classes
"World Science Leader's Seminar" in Ph.D. Program in Human Biology
University of Tsukuba