



**TARA**

Life Science Center of  
Tsukuba Advanced Research Alliance

# TARA Seminar

16:00~, May 25th, 2017

Seminar room, Building A, TARA Center

**Prof. Akira Nakai, M.D., Ph.D.**

Department of Biochemistry and Molecular Biology,  
Yamaguchi University School of Medicine



## HSF1 in stress and health

In response to phototoxic stress such as elevated temperatures, heat shock transcription factor 1 (HSF1) is activated and induces transcription of protein quality control genes. This response, called heat shock response (HSR), is an evolutionally conserved adaptive mechanism to protein misfolding and maintains proteostasis capacity. Recently, it was revealed that HSF1 activity and the HSR are tightly connected with metabolisms of nucleic acid, sugar and energy. Furthermore, HSF1 was involved in DNA integrity. These observations suggest that the ancient transcription factor HSF1 plays a key role in cellular homeostasis.

Nakai A. *Nature Struct. Mol. Biol.* 23, 93-95 (2016)

Tan K, et al. *Nature Commun.* 16, 6580 (2015)

Takii R, et al. *Mol. Cell. Biol.* 35, 11-25 (2015)

Hashimoto-Torii K, et al. *Neuron* 82, 560-572 (2014)

Fujimoto M, et al. *Mol. Cell* 48, 182-194 (2012)

Shinkawa T, et al. *Mol. Cell. Biol.* 22, 3571-3583 (2011)

Contact : Life Science Center of Tsukuba Advanced Research Alliance  
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**

