令和 5 年 10 月 23 日 Oct. 23, 2023

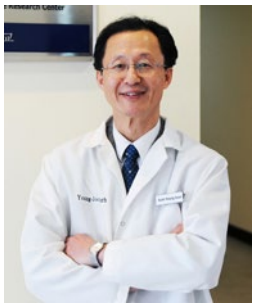
大学院学生各位 To All Graduate Students

基盤医学特論 開講通知

Information on Special Lecture Tokuron AY2023

Title: **Redox Regulation of Cellular Stress Response: NRF2 as a Key Player**

Teaching Staff: **Young-Joon Surh; Professor of Biochemistry and Molecular Oncology, College of Pharmacy, Seoul National University, South Korea**



日時：令和 5 年 12 月 1 日（金）17:00-18:30
Time and Date: **17:00-18:30, Dec 1st (Fri), 2023**

場所：基礎棟一階 会議室 2（生協印刷部隣）
Room: **Conference Room 2, Building for Medical Research (1F)**

Language: **English**

Abstract: Living organisms have evolved ubiquitous mechanisms to manage a vast multitude of stressors and noxious conditions. One central player in cellular adaptive stress response is the nuclear factor erythroid 2 p45-related factor (NRF2). This transcription factor regulates the expression of a battery of antioxidant enzymes and other cytoprotective proteins, thereby maintaining cellular redox homeostasis. Some chemoprotective and chemopreventive phytochemicals are capable of activating NRF2 signaling. However, redox homeostasis is not only essential for the maintenance of normal physiological functions, but also plays an important role in the growth, survival, and therapy resistance of cancer cells. Redox imbalance and consequent disruption of redox signaling are implicated in the proliferation and progression of cancer cells and their resistance to chemo- and radiotherapy. Aberrant NRF2 overactivation has been observed in many cancerous and transformed cells. Uncontrolled amplification of NRF2-mediated antioxidant signaling results in reductive stress. Some metabolic pathways altered due to reductive stress have been identified as major contributors to tumorigenesis. This lecture will highlight the multifaceted roles of NRF2 as both tumor suppressive and prooncogenic proteins.

Bibliography:

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3. Kim SJ, Saeidi S, Cho NC, Kim SH, Lee HB, Han W, Noh DY, Surh YJ. Interaction of Nrf2 with dimeric STAT3 induces IL-23 expression: Implications for breast cancer progression. *Cancer Lett.* 2021;500:147-160.
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7. Kim SH, Lee SE, Kim SJ, Fang X, Hur J, Sozen E, Özer NK, Kim KP, Surh YJ. Protective effects of an electrophilic metabolite of docosahexaenoic acid on UVB-induced oxidative cell death, dermatitis, and carcinogenesis. *Redox Biol.* 2023;62:102666.

＊ 関係講座･部門等の連絡担当者 生体反応病理学 豊國 伸哉
Contact: E-mail; toyokuni@med.nagoya-u.ac.jp

[注意] 事前連絡は不要です。Notice: No registration required.

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