World Science Leaders' Seminar

ワールドサイエンスリーダーズセミナー

The Chemical Biology of Small-Molecule Signaling Agents: A Focus on Hydrogen Sulfide and Derived Species

Guest Speaker

Dr. Jon M. Fukuto

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Tue. July 21
10:10 -11:25

Room 411 in Medical Gakugun-to 4A Building
医学学群棟 4A 411

The discovery that the small diatomic molecule nitric oxide (NO) could be biosynthesized for the purpose of regulating vascular tone (among other roles) represented a paradigm shift in our understanding of the nature of cell signaling. Due to this watershed discovery, the idea that small, easily diffusible, endogenously generated and potentially toxic species could be important effector/signaling molecules is now universally embraced. Besides NO, other small-molecule signaling agents such as carbon monoxide (CO) and hydrogen sulfide (H2S) have received significant attention due to their biological activity and potential for therapeutic application. Of all these species, it appears that H2S is the least understood in terms of its chemical biology and mechanism of action. As with NO, the chemistry of H2S will be fundamental to its utility as a biological effector and/or signaling molecule. Thus, it will be important to determine the fundamental chemistry of H2S as a prelude to understanding the mechanism(s) and target(s) of its activity. The evolution of the field of small-molecule signaling agents will be discussed with an emphasis on recent discoveries regarding the chemistry and biology of H2S and derived species.

This seminar will be held as a part of the class
" World Science Leaders' Seminar" in Human Biology Program

Ph.D. Program in Human Biology

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