

The 98th iCeMS SEMINAR

**Tue 27 Dec 2011
13:00-14:30**

Constructive Approach towards Artificial Cell

Lecturer: **Dr. Tadashi Sugawara**

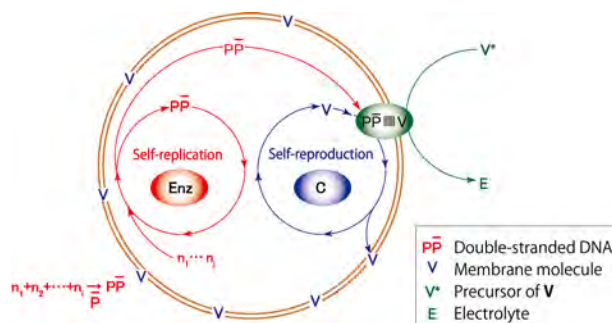
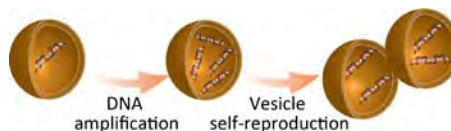
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Venue: 2nd floor Seminar Room (#A207)
iCeMS Complex 1, Kyoto University

Self-reproduction of vesicle compartments is linked to the self-replication of encapsulated DNA. Externally added membrane precursors are taken up by the vesicles and converted into membrane molecules, enabling the vesicles to grow and divide. Vesicles within which DNA is amplified undergo rapid and sequential divisions, distributing newly formed DNA to daughter vesicles. This represents a promising approach for the construction of an artificial cell.

Selected Reference

- [1] K. Takakura, et al., *J. Am. Chem. Soc.*, 125, 8134-8140, (2003)
- [2] K. Takakura, et al., *Langmuir*, 20(10), 3832-3834 (2004)
- [3] K. Shohda, et al., *Soft Matter*, 7, 3750 -3753 (2011)
- [4] Kensuke et al., *Nature Chemistry*, 3, 775-781(2011)



Coupling between Self-replication of DNA and Self-reproduction of Membrane

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Hosted by: iCeMS (Institute for Integrated Cell-Material Sciences), Kyoto University
Co-hosted by: Center for Frontier Medicine, Global COE Program, Kyoto University

