生命化学セミナーSeminar

日時：2017年6月23日（金）

16:00～17:30

すずかけ台 B棟4階426室(大会議室)

De novo design of proteins

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De novo protein design, in which one designs proteins beginning from first principles, provides an approach that critically tests our understanding of protein folding and function, while also laying the groundwork for the design of proteins and biomimetic polymers. The de novo design of metalloproteins has proven to be a useful approach for understanding the features in a protein sequence that causes them to fold into their unique three-dimensional structures that bind and tune the properties of their bound cofactors. This talk will focus on the design of proteins that bind porphyrins, dimetal ion cofactors including di-Zn(II), di-Fe(II/III) and di-Mn(II/III) and tetranuclear centers. This talk will focus on principles of protein design and the application to the design of water-soluble proteins that stabilize the formation of organic radicals as well as membrane proteins that function as Zn(II)/proton antiporters.

https://pharm.ucsf.edu/degrado

[1] Protein design: a hierarchic approach, *Science 270*, 935-941, 1995
[2] Alteration of the oxygen-dependent reactivity of de novo Due Ferri proteins, *Nature chemistry 4*, 900-906, 2012
[3] Computational design of virus-like protein assemblies on carbon nanotube surfaces, *Science 332*, 1071-1076, 2011
[4] Short peptides self-assemble to produce catalytic amyloids, *Nature chemistry 6*, 303-309, 2014

Anyone welcome

≪問い合わせ≫ Hisakazu MIHARA, Hiroshi TSUTSUMI