大阪府立大学 21世紀科学研究機構

ケミカルバイオロジー研究所

Research Institute for Chemical Biology

第 20 回　ケミカルバイオロジー研究所セミナー
第 77 回 生物科学フロンティアセミナー

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"Universal fluorescent probe platform for almost everything"

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The conventional bioprobe design has been carried out by so-called hypothesis-driven approach. The basic assumption of hypothesis-driven approach is that the scientist "knows the target" in advance, and then design the recognition motif for it. An alternative approach is diversity-driven approach, in which a broad range of fluorescence molecules in a library format are constructed by combinatorial chemistry, as a tool box for unbiased screening. Among several diversity sources, "Diversity Oriented Fluorescence Library Approach (DOFLA)" using fluorophore core with diverse recognition motives around has been the most fruitful in novel bioprobe generations. Using DOFLA, various colorful sensors for many different analytes and bioimaing probes from stem cells to neuron cells will be demonstrated. Whole body animal imaging will also be presented using NIR range of probes.

References:

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2. Kang, N. Y.; Lee, S. C.; Park, S. J.; Ha, H. H.; Yun, S. W.; Kostromina, E.; Gustavsson, N.; Ali, Y.; Chandran, Y.; Chun, H. S.; Bae, M. A.; Ahn, J. H.; Han, W.; Radda, G. K.; Chang, Y. T. Angew. Chem., Int. Ed. Engl., 2013, 52, 8557-8560.

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