

Artificial DNA for bionanotechnology

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HOMEPAGE

<http://www.nubio.nagoya-u.ac.jp/seigyoy1/english/index.html>



Prof. Hiroyuki ASANUMA

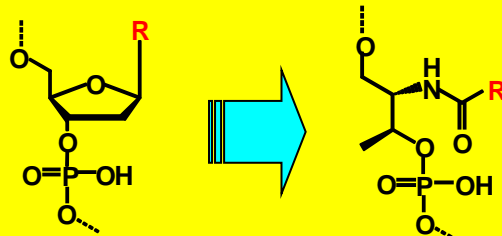


Associate Prof.
Hiromu Kashida

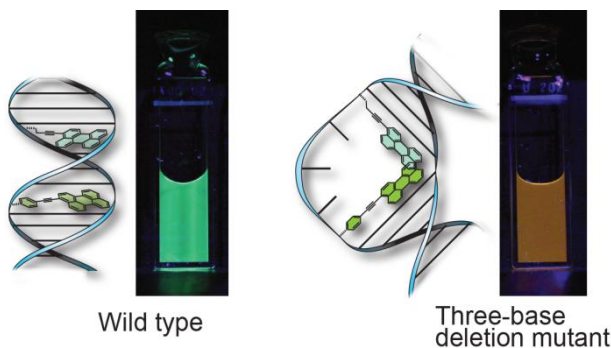
Functional DNA and RNA with cartridge-type nucleotides

We are now developing new tools for future biotechnology and high-performance nano-materials by making full use of both natural nucleic acid (DNA, RNA) and artificial XNA such as “Threoninol nucleotides” tethering non-natural molecules on D-threoninols. For example, new fluorescent probes that detects the target sequence-specifically, high-intensity dye clusters, photo-responsive DNA and RNA, and functional siRNA for therapeutic application are created.

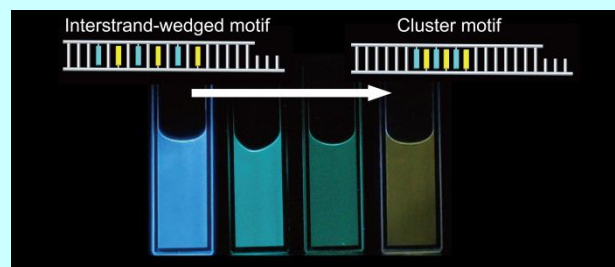
Cartridge-type artificial nucleotide “Threoninol nucleotide”



Fluorescent probe utilizing exiplex emission



DNA Dots as a high-intensity dye cluster



Patents

PCT/JP2009/061980, 特願2010-042632, 特願2010-194942, 特願2010-206043