A Novel Cancer RNA Diagnostic Tool Kit

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Cancer has been recognized as a devastating living organism to be a main death cause of humans. To identify it at early stage provides a practical insight on most of patients who suffer much from such infectious disease. With the advent of nanotechnology, a variety of cancer diagnostic tool kits have been developed. A DNA or RNA, which is usually known to be a genetic code, has been a generic nanomaterial. It constructs several nanoarchitectures such as a cube, polyhedra, and even origami. Due to the selective specificity and intrinsic biocompatibility, new DNA or RNA based nanostructures have been further considered to address several medical issues. Here, we present a new cancer RNA diagnostic nanomachine consisting of DNA/RNA hybrid origami working on higher sensitivity and selectivity. It easily grabs and gauges target cancer RNA markers even in much lower levels. The DNA/RNA crosses as diagnostic tools can simply engage several anticancer medications via a simple physical entrapping and they may be further utilized for cancer therapeutic medicines.