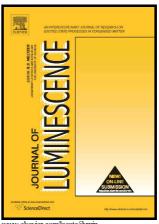
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ACCEPTED MANUSCRIPT

A label-free assay for high sensitive detection of RNase

based on two Near IR fluorescence probes

Jinya Du ^a, Na Huang ^a, Zhouxuan Xiang ^a, Yuzhi Dong ^b, Qingyun Gao ^a, Wei Yang ^a, Changying Yang ^{a,*}

^a College of Biological and Pharmaceutical Science, China Three Gorges University,

Yichang443002, PR China

^b College of Life Science, Hubei University, Wuhan 430062, PR China

*Corresponding author. Tel: 86-717-6395643; Fax: 86-717-6395580.

E-mail address: changying.yang@ctgu.edu.cn.

Abstract

RNase, whose function was cleaving RNA in ssRNA, dsRNA or DNA-RNA hybrid chain, can be analyzed directly by fluorescence probe assisted with RNA. In this paper, we constructed a none-labeled RNase assay based on fluorescence probe with high sensitivity and specificity. Two TICT characterize probes (H2 and L2) exhibited strong luminescence when bound with RNA. Then RNase hydrolysis substrate RNA exposing probe into buffer and resulted in fluorescence quench, causing "OFF-ON-OFF" fluorescence switch. We successfully applied the assay to detect two kind of RNase (RNase A and RNase H) with the detection limit of 1.67×10^{-5} U/mL

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