Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Simple, PCR-free telomerase activity detection using G-quadruplex-hemin DNAzyme

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Examination the generation of short extension product by polyacrylamide gel electrophoresis (PAGE)

25 μL reaction mixture containing 20 mM Tris-HCl buffer (pH 8.2), 1.5 mM $MgCl_2$, 63 mM KCl, 0.005% Tween 20, 1 mM EGTA, 0.1 mg/mL BSA, 1 mM dGTP, 0.6 μM fluorescence (FAM)-labelled telomerase primer (FAM-TgggTAgggCgggTTA-3′) and cell extract from 10,000 HeLa cells, was prepared. The mixture was incubated at 37 °C for 1.5 h for telomerase-triggered primer extension. After that, 5 μL of loading buffer (0.25% bromophenol blue, 0.25% xylene cyanol, 30% glycerol, 10 mM EDTA) was added. 30 μL of samples were loaded on 20% polyacrylamide gel. Electrophoresis was carried out in 1×TBE buffer at 10 V cm^{-1} for 3 h at room temperature. The gel was photographed using a Gel Documentation system (Huifuxingye, Beijing, China).

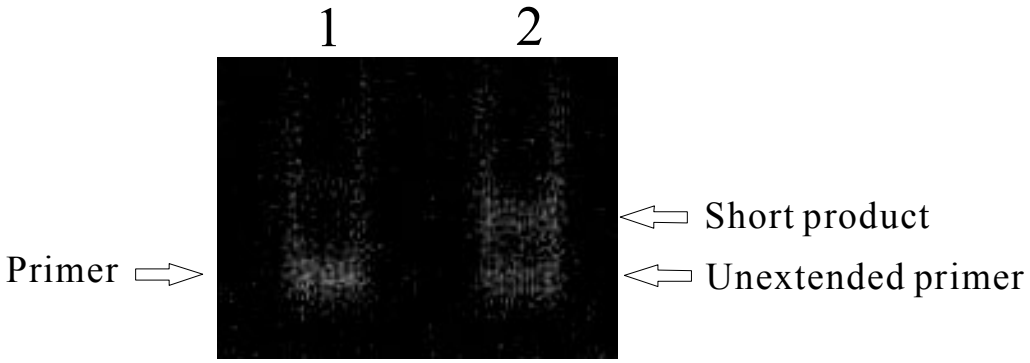

Fig. S1 PAGE analysis of active telomerase-triggered extension of the primer. Lane 1: without cell extract; Lane 2: with cell extract from10,000 HeLa cells. In this experiment, dGTP, but not dNTPs, was used. Fluorescence (FAM)-labelled telomerase primer (FAM-TgggTAgggCgggTTA-3′) was used, and the DNA bands were observed using the fluorescence of FAM.