

Supporting Information

An ultra-sensitive colorimetric assay for reliably visual detection of telomerase activity

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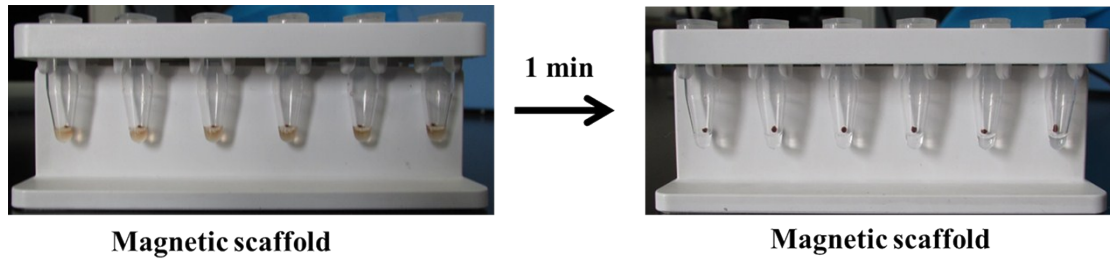


Figure S1. Protocol of magnetic separation.

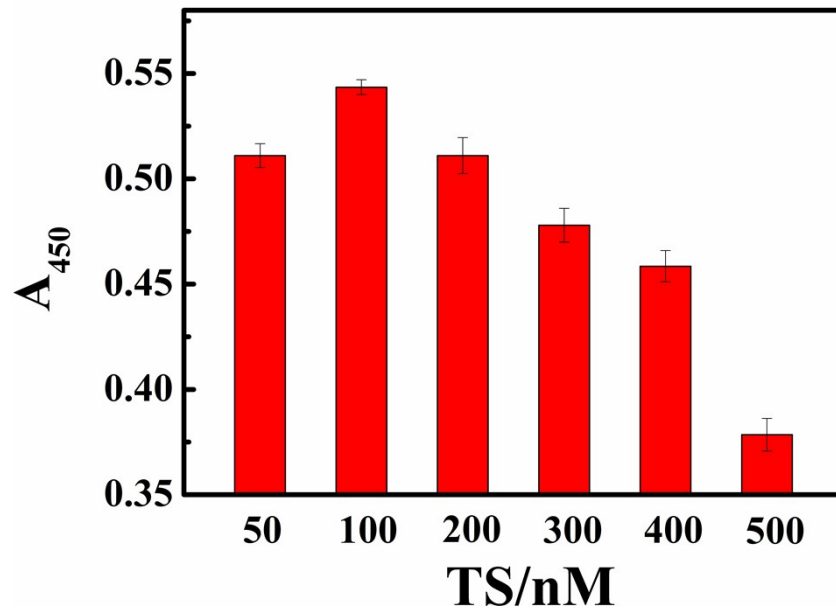


Figure S2. Impact of TS concentration on the absorbance. Telomerase corresponding to 200 HeLa cells was used. Error bars were calculated from three replicate measurements.

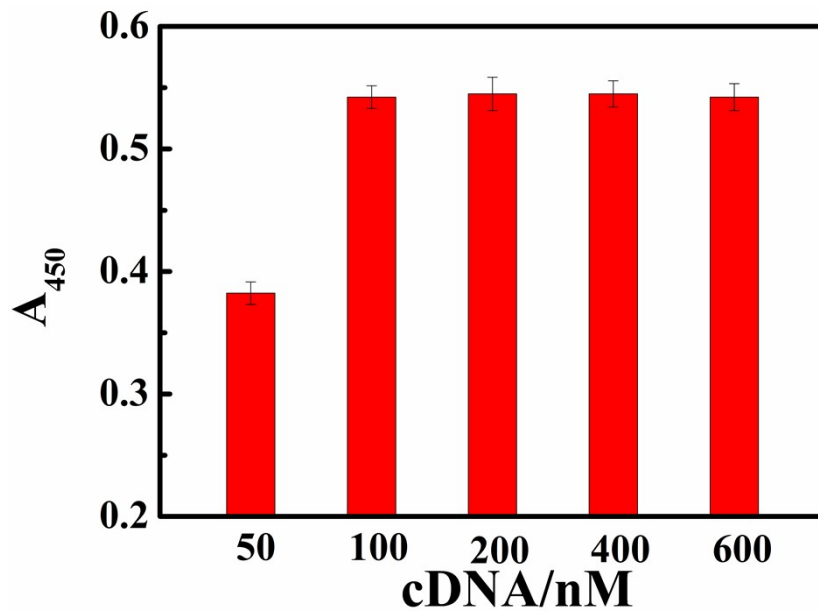


Figure S3. Impact of cDNA concentration on the absorbance. **Telomerase corresponding to 200 HeLa cells was used.** Error bars were calculated from three replicate measurements.

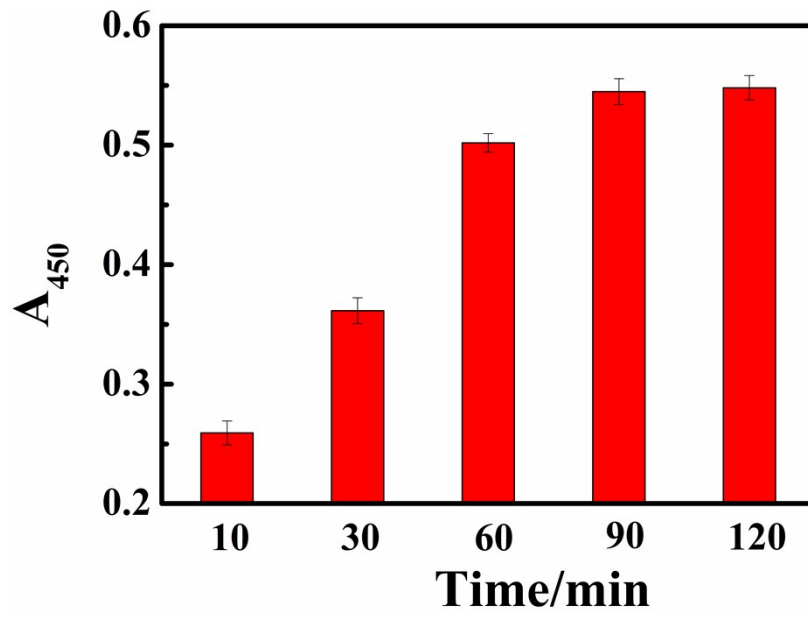


Figure S4. Impact of hybridization time on the absorbance. **Telomerase corresponding to 200 HeLa cells was used.** Error bars were calculated from three replicate measurements.

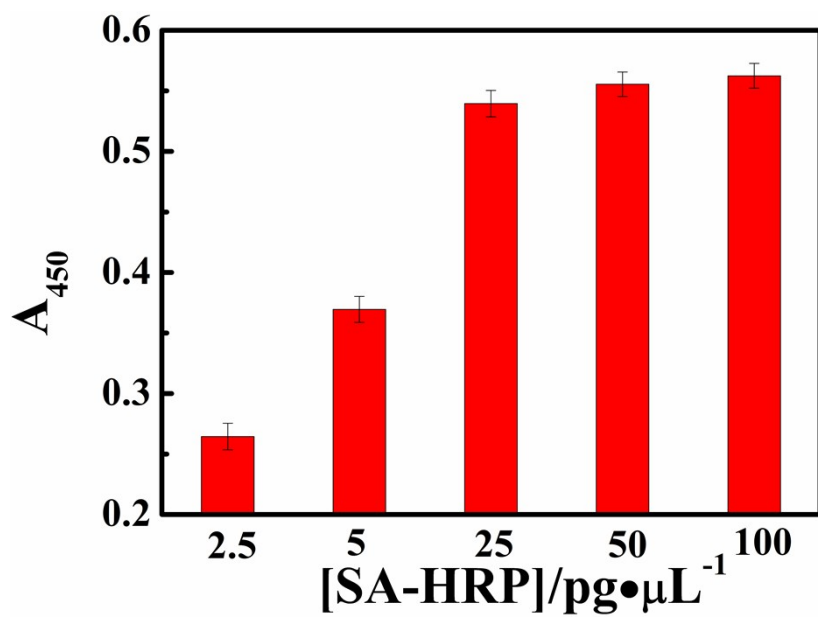


Figure S5. Impact of SA-HRP concentration on the absorbance. **Telomerase corresponding to 200 HeLa cells was used.** Error bars were calculated from three replicate measurements.

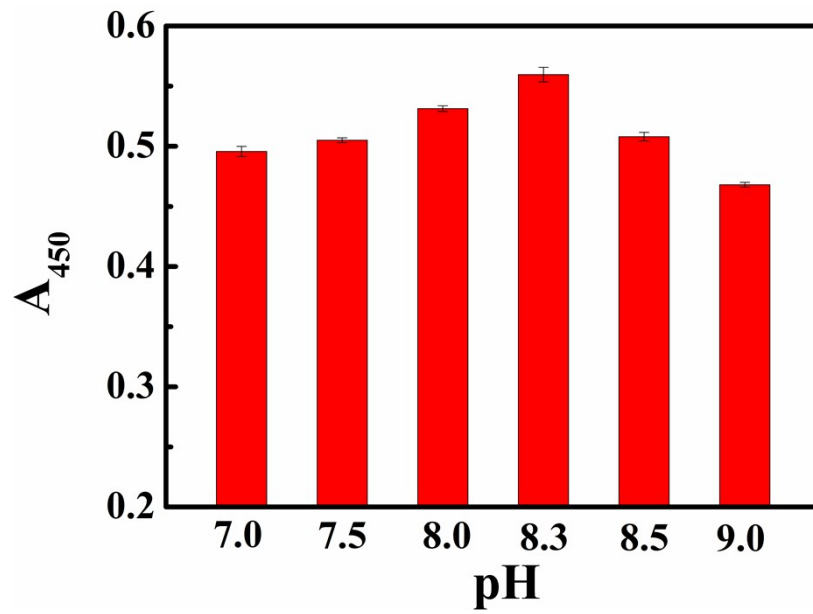


Figure S6. Impact of pH of TRAP buffer on the absorbance. **Telomerase corresponding to 200 HeLa cells was used.** Error bars were calculated from three replicate measurements.

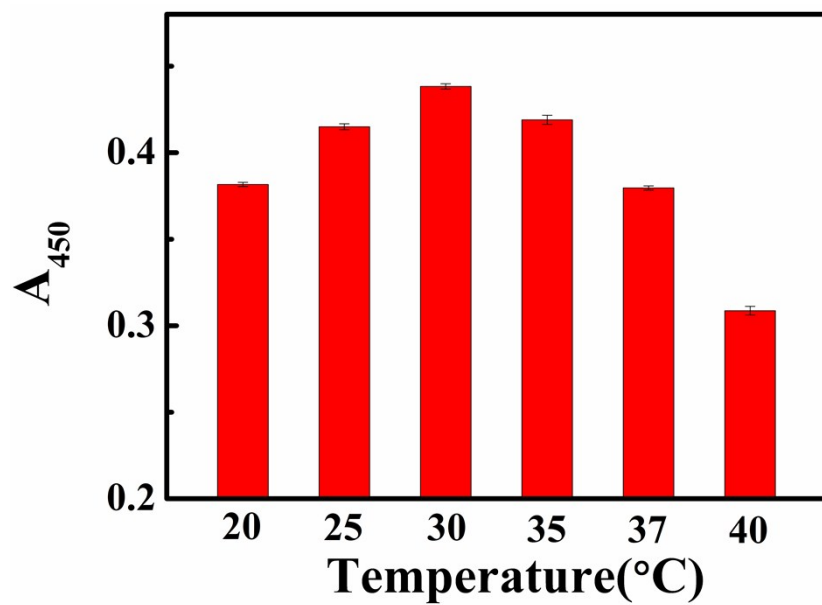


Figure S7. Impact of extension temperature on the absorbance. **Telomerase corresponding to 200 HeLa cells was used.** Error bars were calculated from three replicate measurements.

Table S1. Comparison of colorimetric assays for detecting telomerase activity

Reference	Signal reporter	Detection limit (naked eye)	Detection limit (UV-vis spectrometer)	Detection in complex matrix	Visual detection
(1)	AuNP	10 HeLa cells/ μ L	1 HeLa cell/ μ L	No	Yes
(2)	AuNP	1000 HeLa cells	100 HeLa cells	No	Yes
(3)	AuNP	6 MCF-7 cells/ μ L	Not mentioned	No	Yes
(4)	AuNP	100 HL-60 cells/mL	29 HL-60 cells/mL	No	Yes
(5)	AuNP	100 HeLa cells	10 HeLa cells	No	Yes
(6)	AuNP	27 293T cells/ μ L	27 293T cells/ μ L	No	Yes
(7)	AuNP	100 cells/mL	10 cells/mL	No	Yes
(8)	ABTS	Not mentioned	~ 500 HeLa cells	No	No
(9)	TMB	Not mentioned	~ 200 293T cells/ μ L	No	No
(10)	ABTS	Not mentioned	200 HeLa cells	No	No
(11)	TMB	100 HeLa cells/mL	60 HeLa cells/mL	No	Yes
This work	TMB	5 HeLa cells	1 HeLa cell	Yes	Yes

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