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**Toehold-mediated strand displacement reaction-dependent fluorescent strategy
for sensitive detection of uracil-DNA glycosylase activity**

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Abstract

Sensitive detection of uracil-DNA glycosylase (UDG) activity is beneficial for evaluating the repairing process of DNA lesions. Here, toehold-mediated strand displacement reaction (TSDR)-dependent fluorescent strategy was constructed for sensitive detection of UDG activity. A single-stranded DNA (ssDNA) probe with two uracil bases and a trigger sequence were designed. A hairpin probe with toehold domain was designed, and a reporter probe was also designed. Under the action of UDG, two uracil bases were removed from ssDNA probe, generating apurinic/aprimidinic (AP)

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