



## AapCas12b

### User's Instruction

#### Description

AapCas12b, derived from *Alicyclobacillus acidiphilus*, is an RNA mediated endonuclease that binds to and cleaves specific sites of target DNA under the guidance of single-stranded guide RNA. When AapCas12b recognizes and cleaves the target double-stranded DNA under the guidance of guide RNA, its "accessory cleavage" activity is activated, which can efficiently cleave non-specific single-stranded DNA (ssDNA) in the reaction system. By designing ssDNA probes with fluorescent groups or other markers at both ends, CRISPR/Cas12b can detect DNA template and amplify the signal, to realize the detection of target. The system has high sensitivity and strong specificity.

#### Kit Contents

	100 pmol
1. 10×AapCas12b Reaction Buffer	1 ml
2. AapCas12b	50 μl (2 μM)
	1000 pmol
1. 10×AapCas12b Reaction Buffer	1 ml×6
2. AapCas12b	100 μl (10 μM)
3. 1×AapCas12b Storage Buffer	1 ml×2

#### Protocol

1. Set up the reaction as the following table:

Component	Volume
10×AapCas12b Reaction Buffer	5 μl
Probes	40 - 160 nM
gRNA	20 - 50 nM
AapCas12b	100 - 500nM



Template	2 $\mu$ l
ddH <sub>2</sub> O	Up to 50 $\mu$ l

2. When using microplate reader, set the program in advance and preheat it.
  - a) Filter set: Green (Ex: 485/20, EM: 528/20).
  - b) Reaction temperature: 45 - 65°C.
  - c) Read fluorescence intensity every 1 - 4 min. The reaction time is 30 - 60 min.

### Storage

Minimum shelf life is 1 year at -20°C.

**Only for research and not intended for treatment of humans or animals**