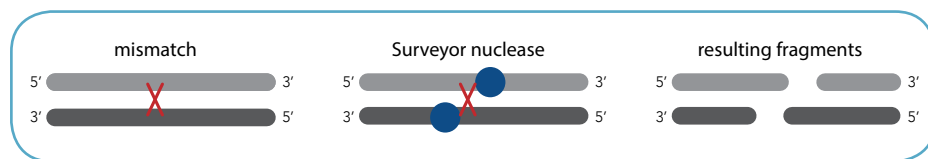


## Surveyor Mutation Detection Kit for standard gel electrophoresis

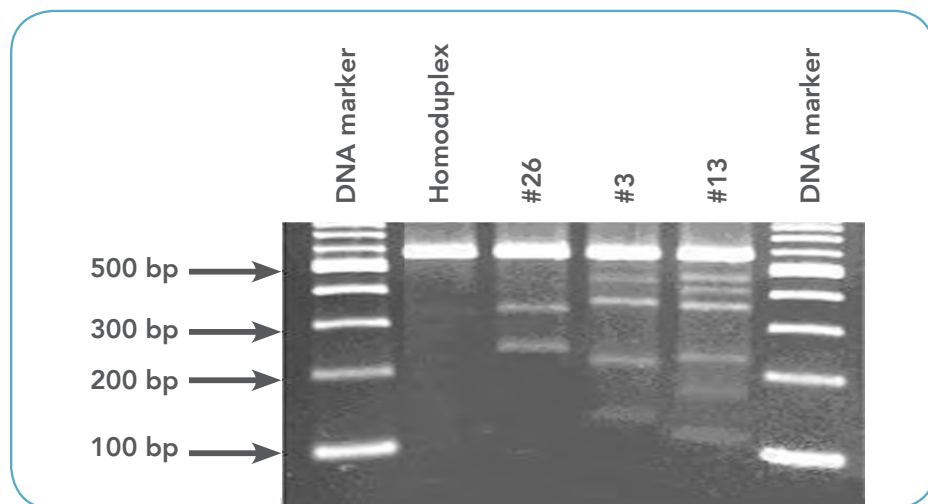
Surveyor Mutation Detection Kits provide a simple, accurate and cost-effective means to scan DNA fragments for mutations with unmatched sensitivity and specificity. For detecting CRISPR genome editing events, we recommend the Alt-R Genome Editing Detection Kit (IDT).

This complete mutation detection system contains Surveyor Nuclease, all reagents, and plasmid controls.



Surveyor Nuclease is a mismatch-specific endonuclease that recognizes mismatches in heteroduplexed DNA and cleaves both strands on the 3' side of the mismatch providing specific information on mutation location, orientation, and type.

- Somatic, germ-line, and mitochondrial mutations
- Insertions, deletions, substitutions, and SNPs
- Low-copy mutations and pooled DNA samples



**Figure 1. Accurate detection of mutations.** Fragments generated by digestion of 160 ng of DNA with 1  $\mu$ L of Surveyor Nuclease S at 42°C for 20 min, were analyzed by electrophoresis on a 2.5% agarose gel containing ethidium bromide, using 75% of the digested DNA. The 584 bp amplicons were generated by PCR amplification with Optimase® Polymerase (Transgenomic) from 1 wild-type reference and 3 mutant genes. Mutant 1 (#26): T>C—fragments = 242 and 342 bp; mutant 2 (#3): A>G and T>C—fragments = 135 and 449 bp, 220 and 364 bp; and mutant 3 (#13): single-base deletion, T>C, and C>A—fragments = 120 and 464 bp, 170 and 414 bp, and 226 and 358 bp. A 100 bp ladder was run as a sizing standard.

### Mutation detection in 4 easy steps

Amplify mutant and reference DNA

Hybridize DNA: hetero- and homo-duplex formation

Add Surveyor Nuclease

Analyze fragments directly

### Benefits

- Determines mutation loci
- Saves time and money
  - Streamlines DNA sequencing
  - Decreases sequencing backlog and analysis time
  - Validates sequencing results and analysis
  - Decreases chromatogram analysis by 90%
- Does not require post-PCR or post-reaction clean-up
- Provides high throughput sensitivity and specificity

# mutation detection

## Surveyor Mutation Detection Kit components—optimized to work together

- Surveyor Nuclease S
- Surveyor Nuclease Enhancer S
- Stop Solution
- Control Plasmids and Primers
- 0.15 M Mg<sub>2</sub>Cl Solution

## Products

Surveyor Mutation Detection Kit for standard gel electrophoresis

Size	Catalog No.
25 reactions	706025
100 reactions	706020
1000 reactions	706021

## Shipping and storage

Surveyor products are shipped frozen. Store product at –20°C in a non-frost-free freezer. Enzyme is guaranteed for a period of 6 months if stored as directed.

## Quality control

Every component is quality control tested as indicated on the certificate of analysis, included in each kit.

## Selected references

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7. Mitochondrial DNA damage and repair in RPE associated with aging and age-related macular degeneration. Lin, H. et al. *Invest. Ophthalmol. Vis. Sci.* 52, 3521–3529. (2011).
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For more information and to order, visit [www.idtdna.com/surveyor](http://www.idtdna.com/surveyor)

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