


Product Length Adjustment

The diagram illustrates three scenarios of product length adjustment through alternative splicing. Each scenario shows a DNA template with exons A, B.1, and C. In the first, B.1 is 5 nt long. In the second, B.2 is 7 nt long. In the third, B.3 is 9 nt long. The resulting mRNA sequences are A|B.1|C (155 nt), A|B.1|C (157 nt), and A|B.1|C (159 nt) respectively.

RNA barcoding



The diagram illustrates the RNA barcoding process. It shows a sequence of RNA molecules (represented by blue and red lines) being processed by a barcoding enzyme (represented by a blue oval). The enzyme adds a specific barcode (A, B, ..., N) to the RNA molecule. The resulting barcodes are labeled Barcode A, Barcode B, ..., Barcode N.

Quantify RNA-integrity

Intact ✓

Degraded X

Multi-site AS detection

A:B:C Combinations

Multi-site SNP detection

The diagram illustrates a hairpin probe used for multi-site SNP detection. The probe is a single-stranded DNA molecule that folds back on itself to form a hairpin structure. The 5' end of the probe is labeled '5'' and the 3' end is labeled '3''. The probe contains a region with a red 'P' and 'OH' label, indicating a phosphodiester bond. The probe is designed to hybridize with a target DNA sequence. The target DNA sequence is shown as a double-stranded molecule with a red 'P' and 'OH' label. The target sequence contains a multi-site SNP, indicated by the presence of multiple 'A/T' and 'G/C' base pairs. The probe is designed to hybridize with the target sequence, forming a stable complex. The diagram shows the probe hybridizing to the target sequence, with the hairpin structure opening up to bind to the target. The target sequence is shown with a red 'P' and 'OH' label, indicating a phosphodiester bond. The target sequence contains a multi-site SNP, indicated by the presence of multiple 'A/T' and 'G/C' base pairs. The probe is designed to hybridize with the target sequence, forming a stable complex.

[illegible]

The diagram illustrates the CAGE-Style Primers strategy. A blue line represents the genomic DNA, with a dashed box labeled '?' and a solid box labeled 'B'. A red line represents the cDNA, with a poly-A tail (NNNNNN) and a 5' end. A red arrow labeled 'CAGE-Style Primers' points to the 5' end. A black arrow labeled 'RT' points to the reverse transcriptase binding site. A scale bar indicates 1,000 nt.

Multi-site AS QPCR analysis

cDNA

1,000 nt

~150 nt

~150 nt

3'

1

2

3

4

5

6

A

B

A+B+ = ?

A+/B- = ?

A-/B+ = ?

A-/A- = ?

B

A+6 = +B

5:6 = -C

VS.

Ligation Products

5'

3'

1,000 nt

5'

3'

1

2

3

4

A

B

A:B

1:3 = B+/A+

1:4 = B+/A-

2:3 = B-/A+

2:4 = B-/A-

Amplicon Size Range = 100-150 nt

& NNNNNN = Ligation ID