FIGURE 1A

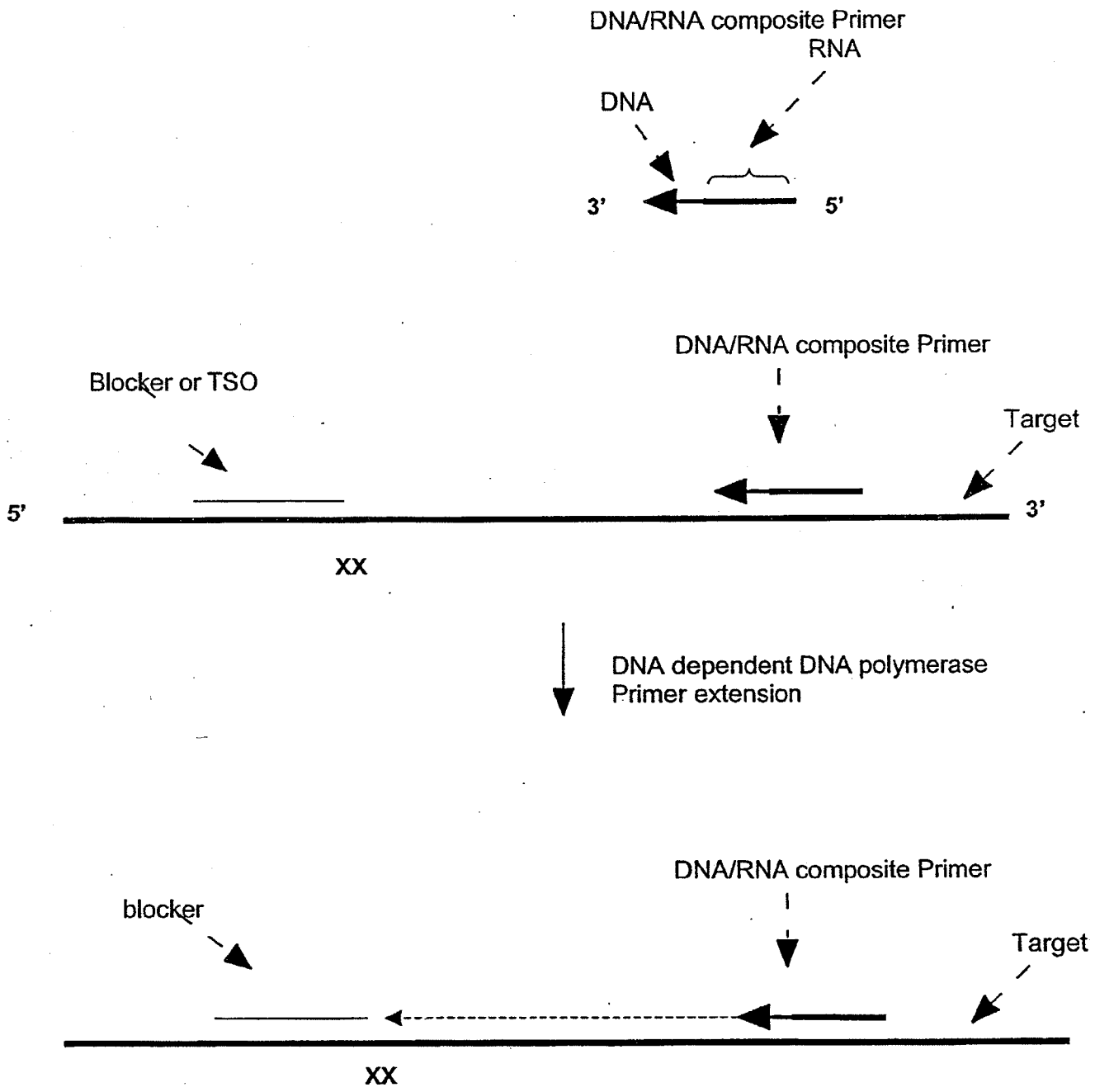

DNA/RNA composite Primer
RNA
DNA
3'
5'
DNA/RNA composite Primer
Blocker or TSO
Target
5'
3'
XX
DNA dependent DNA polymerase
Primer extension
DNA/RNA composite Primer
blocker
Target
XX

FIGURE 1B

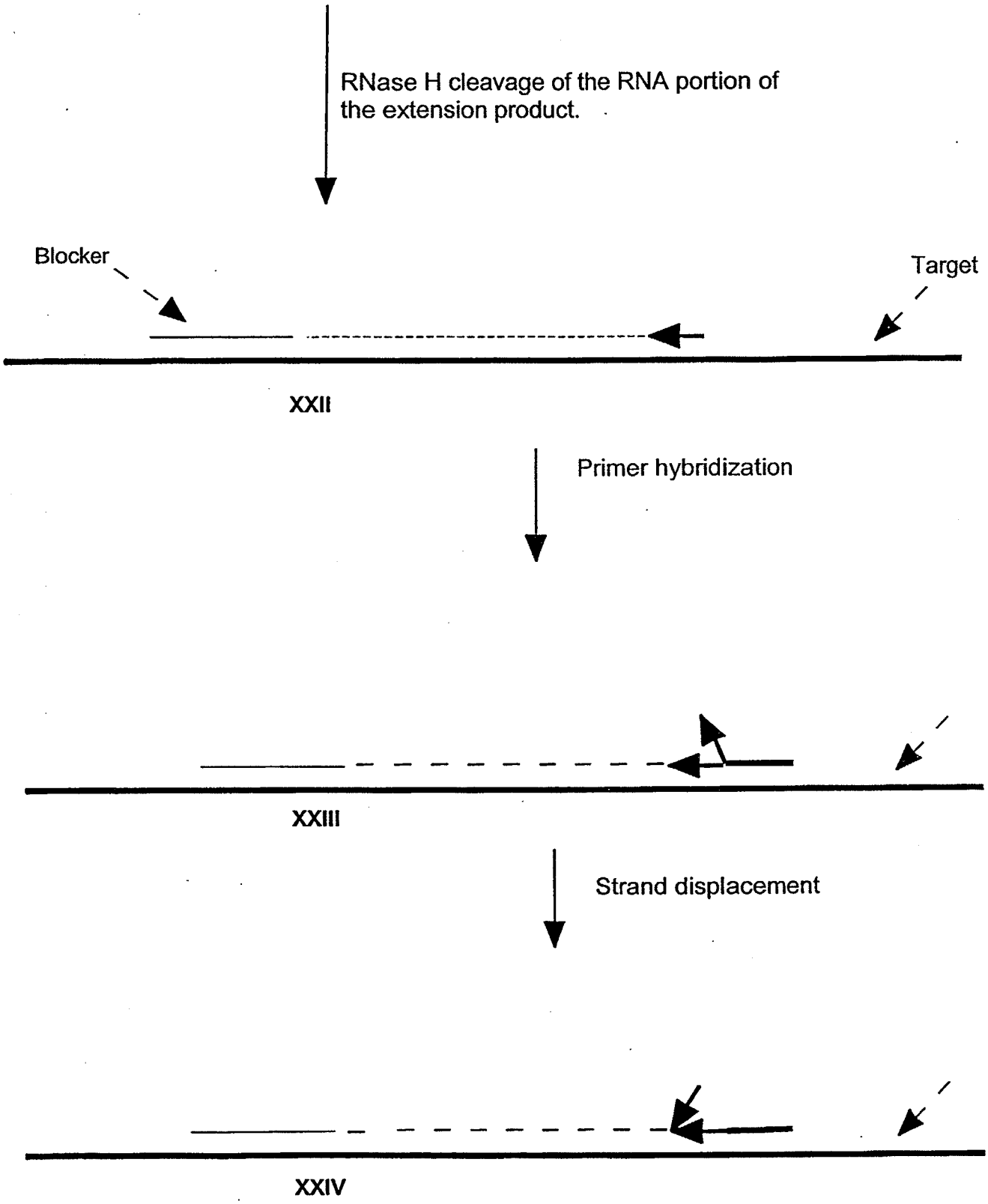

RNase H cleavage of the RNA portion of the extension product.
Blocker
Target
XXII
Primer hybridization
XXIII
Strand displacement
XXIV

FIGURE 1C

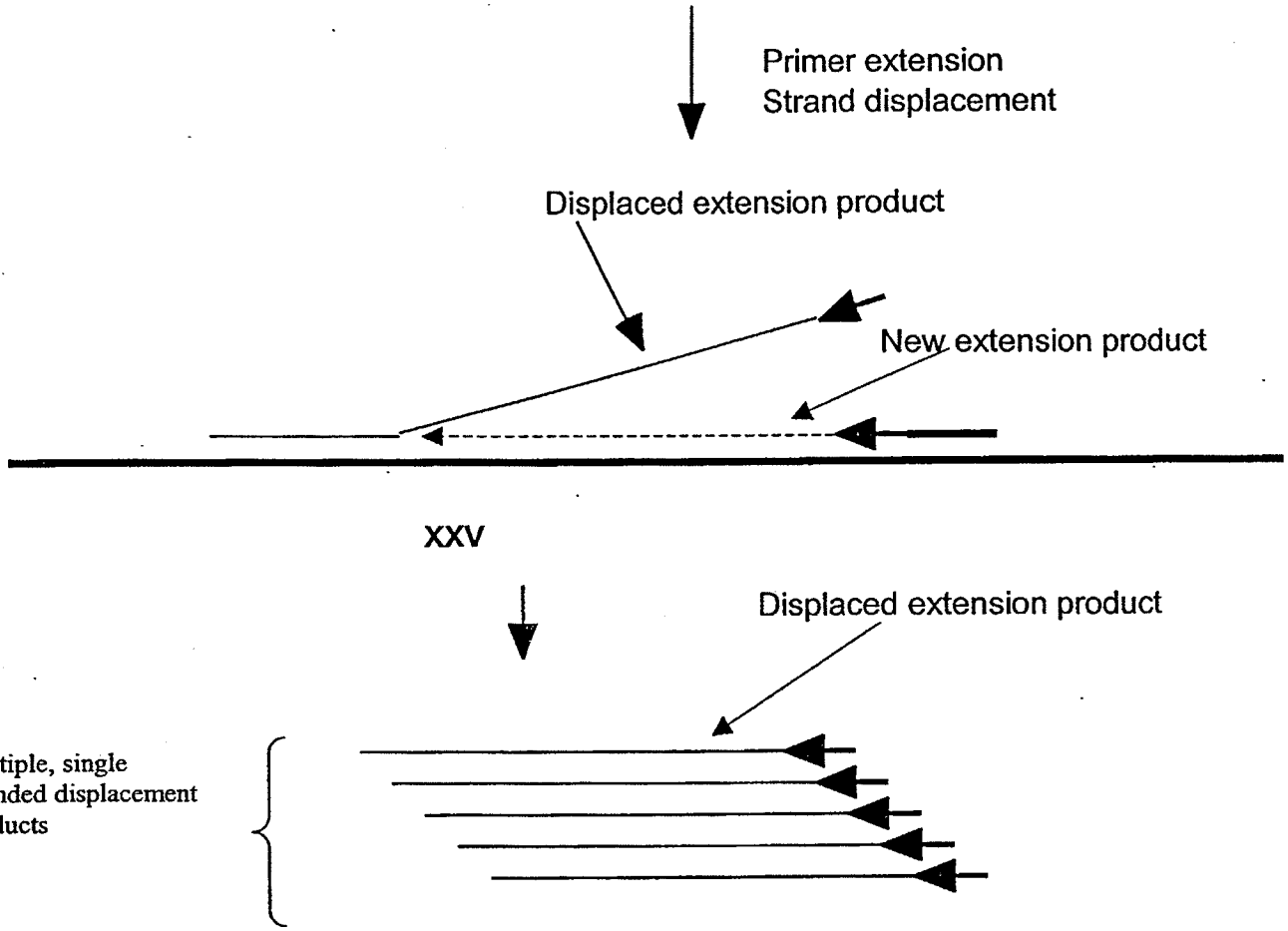

Primer extension
Strand displacement
Displaced extension product
New extension product
XXV
Displaced extension product
Multiple, single stranded displacement products

FIGURE 2A

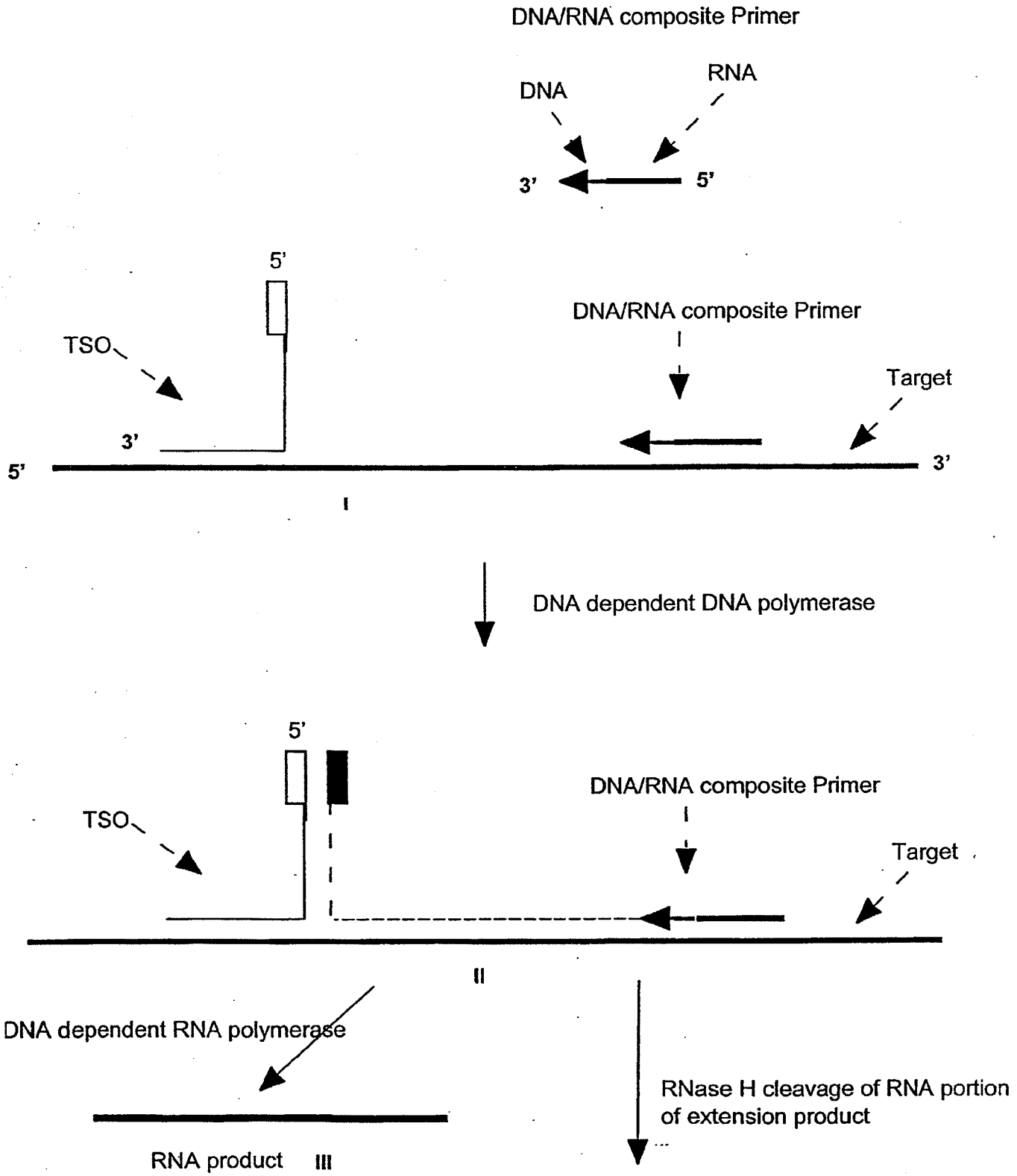

DNA/RNA composite Primer
DNA
RNA
3'
5'
5'
TSO
3'
DNA/RNA composite Primer
Target
5'
3'
I
DNA dependent DNA polymerase
5'
TSO
DNA/RNA composite Primer
Target
II
DNA dependent RNA polymerase
RNase H cleavage of RNA portion of extension product
RNA product III

FIGURE 2B

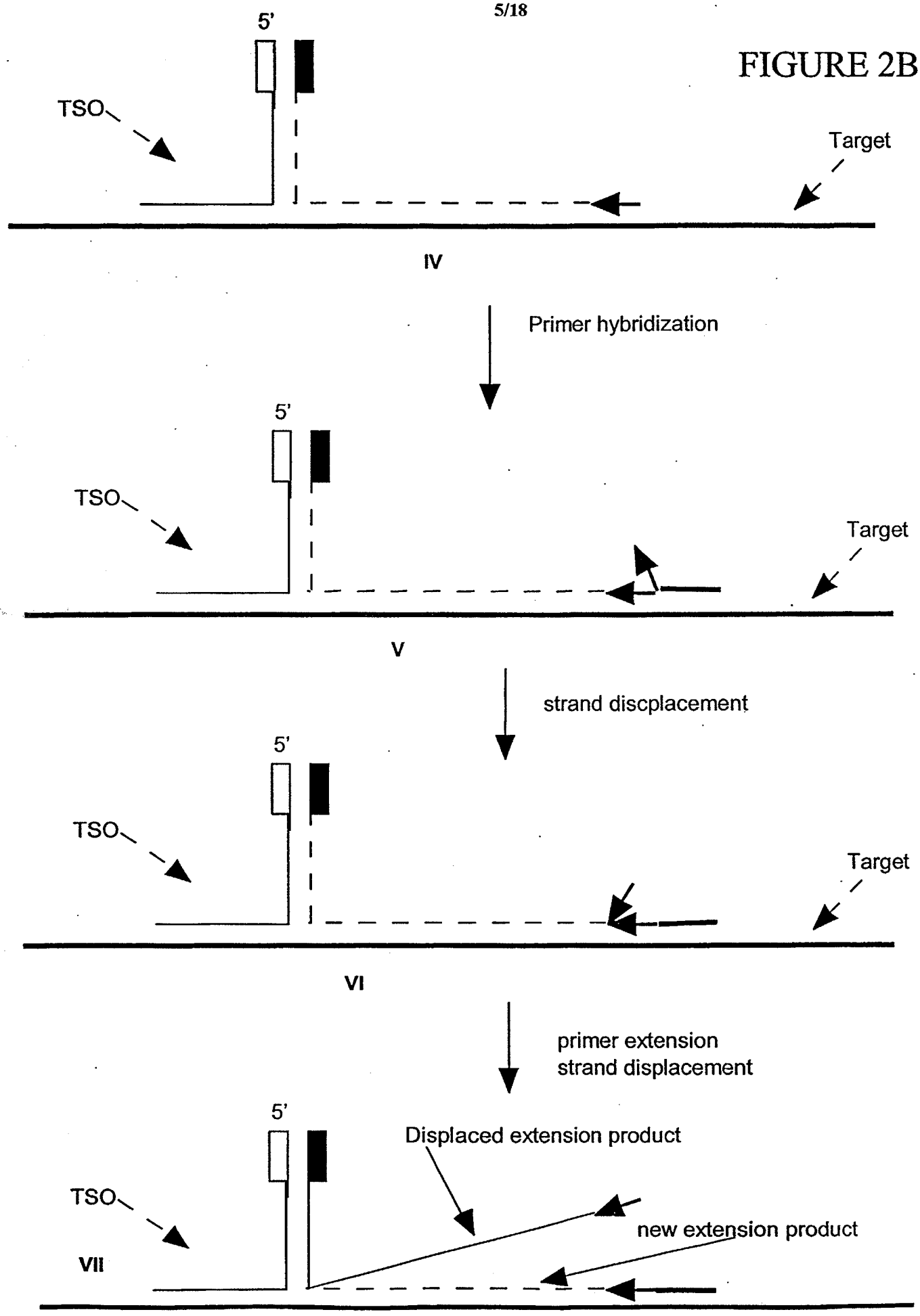

5'
TSO
Target
IV
Primer hybridization
5'
TSO
Target
V
strand discplacement
5'
TSO
Target
VI
primer extension
strand displacement
5'
Displaced extension product
TSO
new extension product
VII

FIGURE 2C

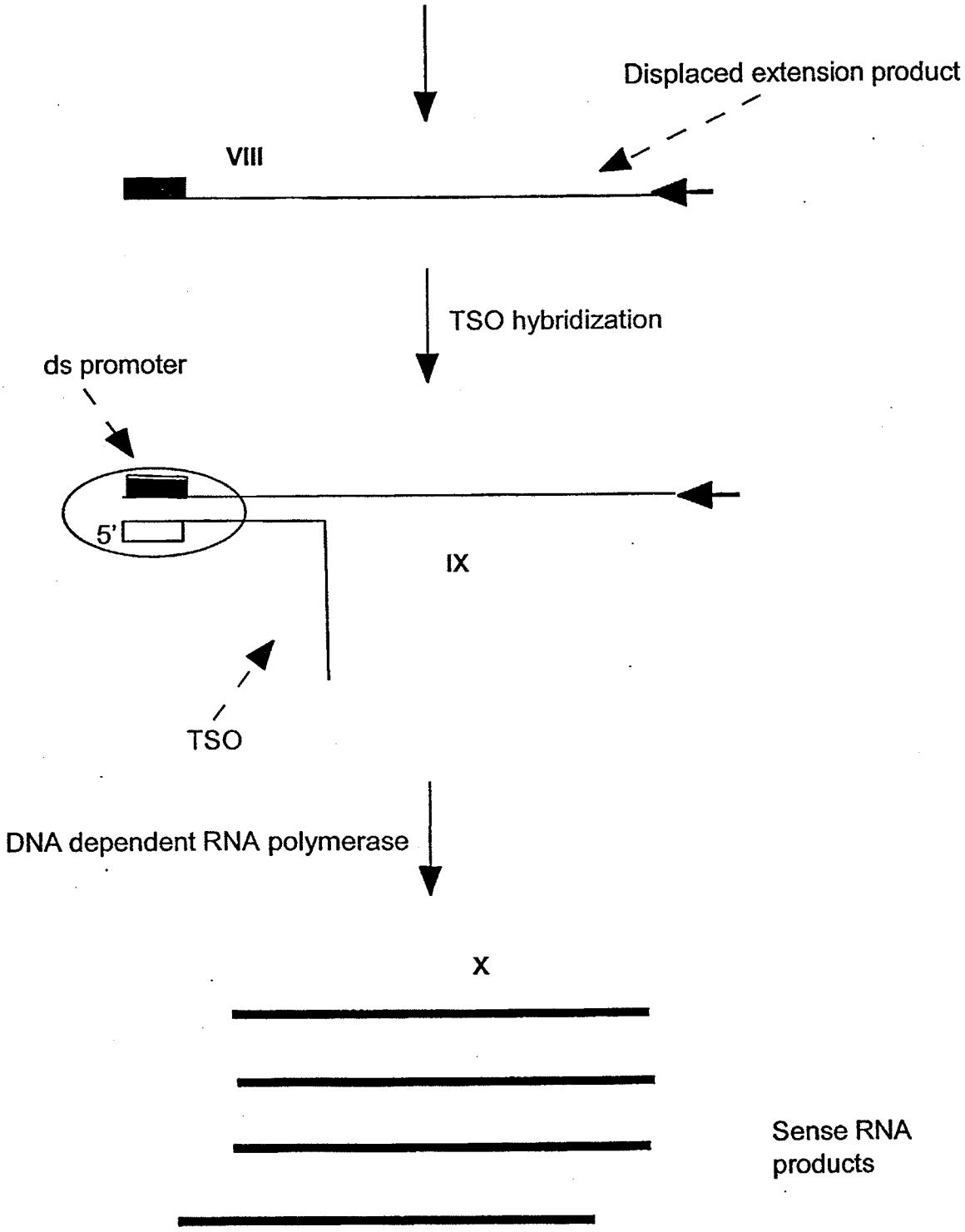

Displaced extension product
VIII
TSO hybridization
ds promoter
5'
IX
TSO
DNA dependent RNA polymerase
X
Sense RNA products

FIGURE 3A

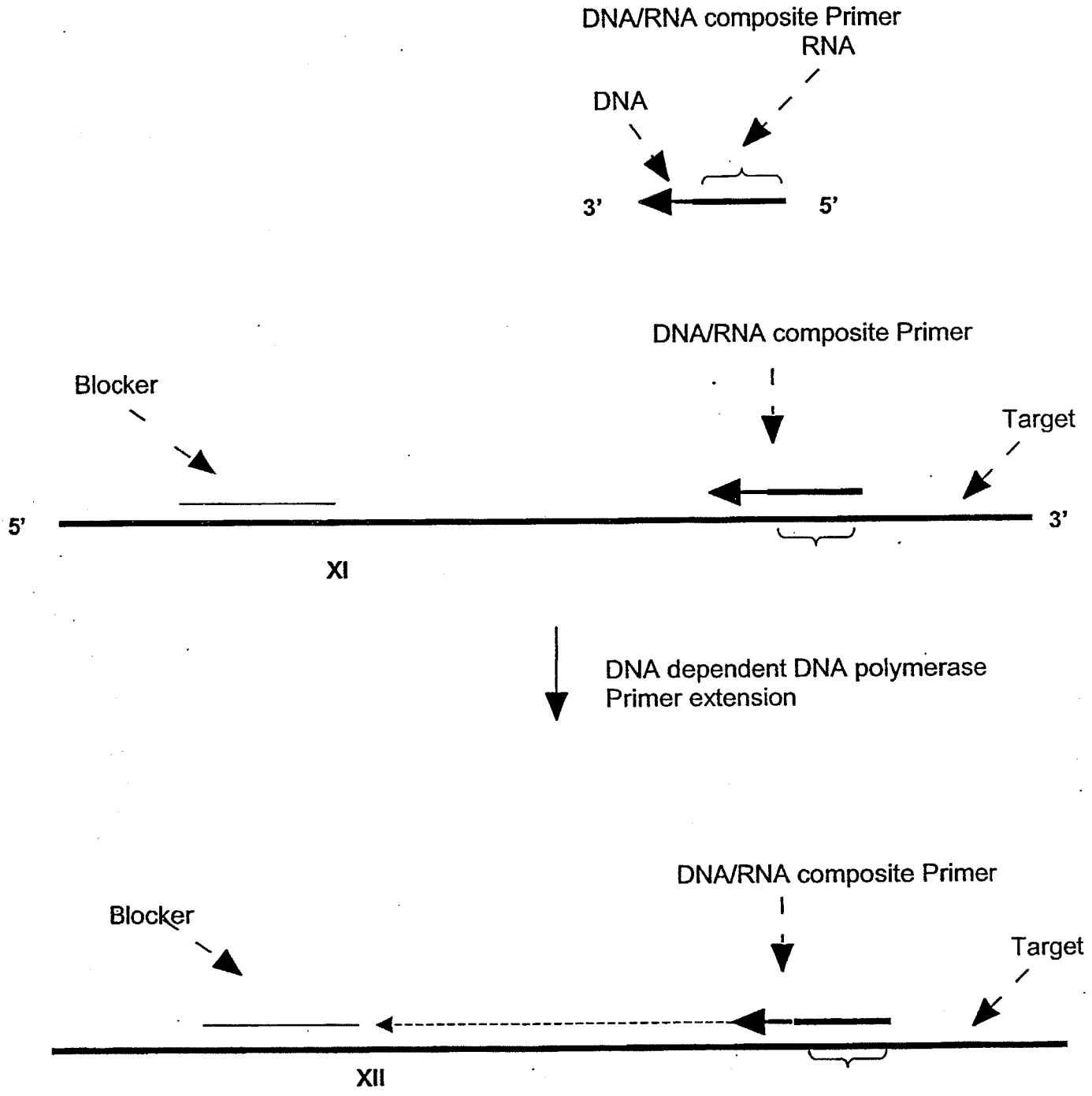

DNA/RNA composite Primer
RNA
DNA
3'
5'
DNA/RNA composite Primer
Blocker
Target
5'
3'
XI
DNA dependent DNA polymerase
Primer extension
DNA/RNA composite Primer
Blocker
Target
XII

FIGURE 3B

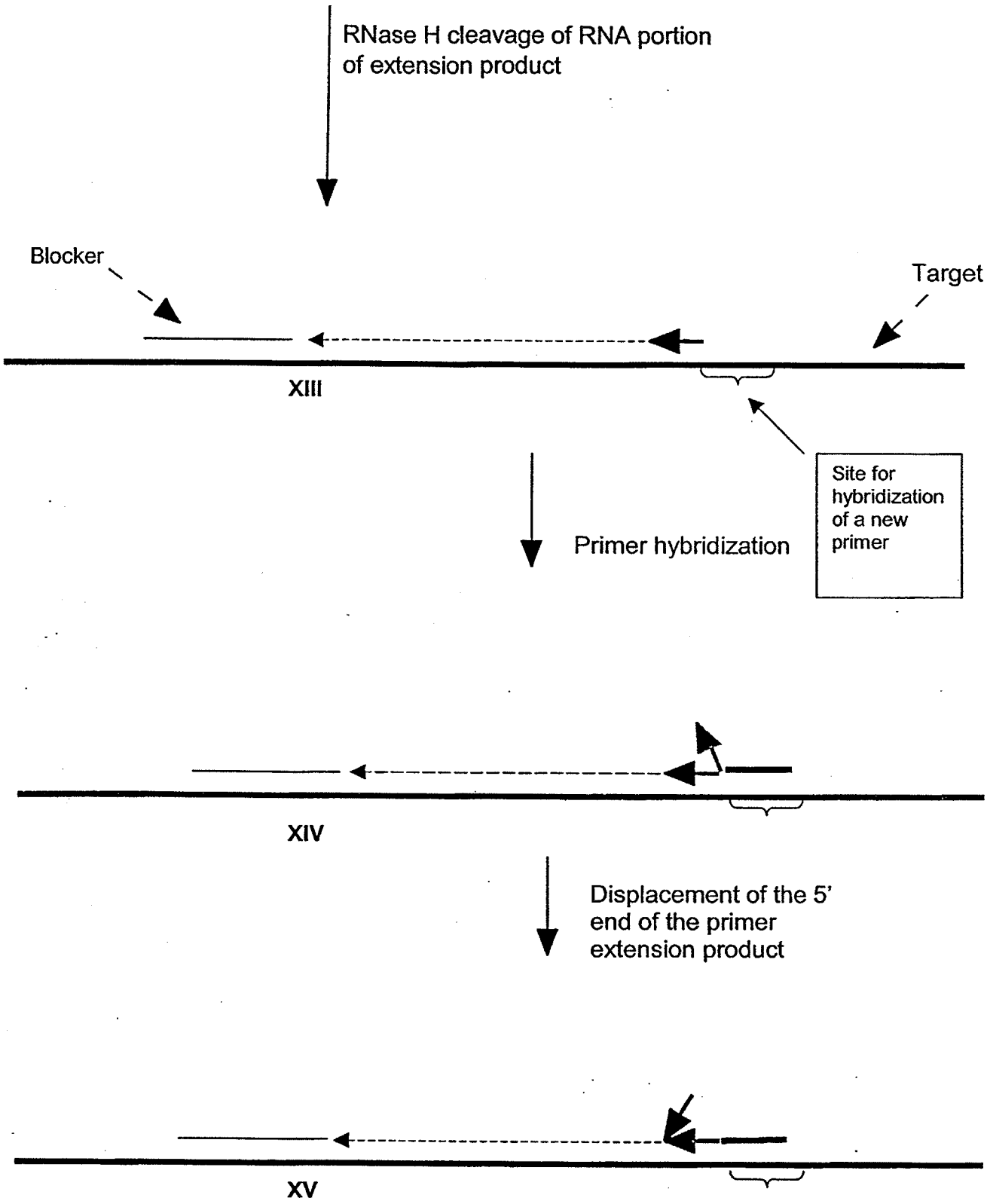

RNase H cleavage of RNA portion of extension product
Blocker
Target
XIII
Site for hybridization of a new primer
Primer hybridization
XIV
Displacement of the 5' end of the primer extension product
XV

FIGURE 3C

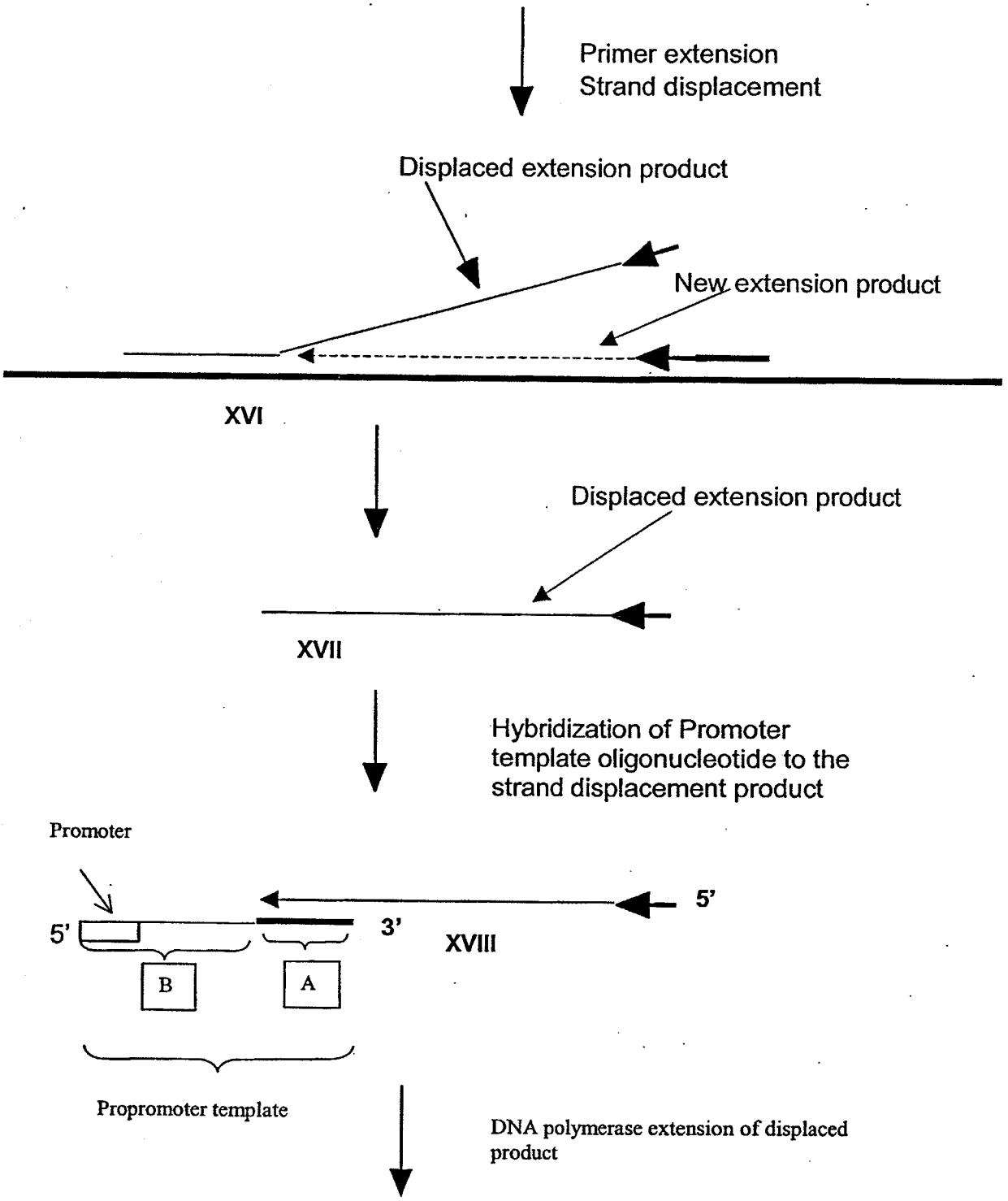

Primer extension
Strand displacement
Displaced extension product
New extension product
XVI
Displaced extension product
XVII
Hybridization of Promoter template oligonucleotide to the strand displacement product
Promoter
5'
3'
5'
XVIII
B
A
Propromoter template
DNA polymerase extension of displaced product

FIGURE 3D

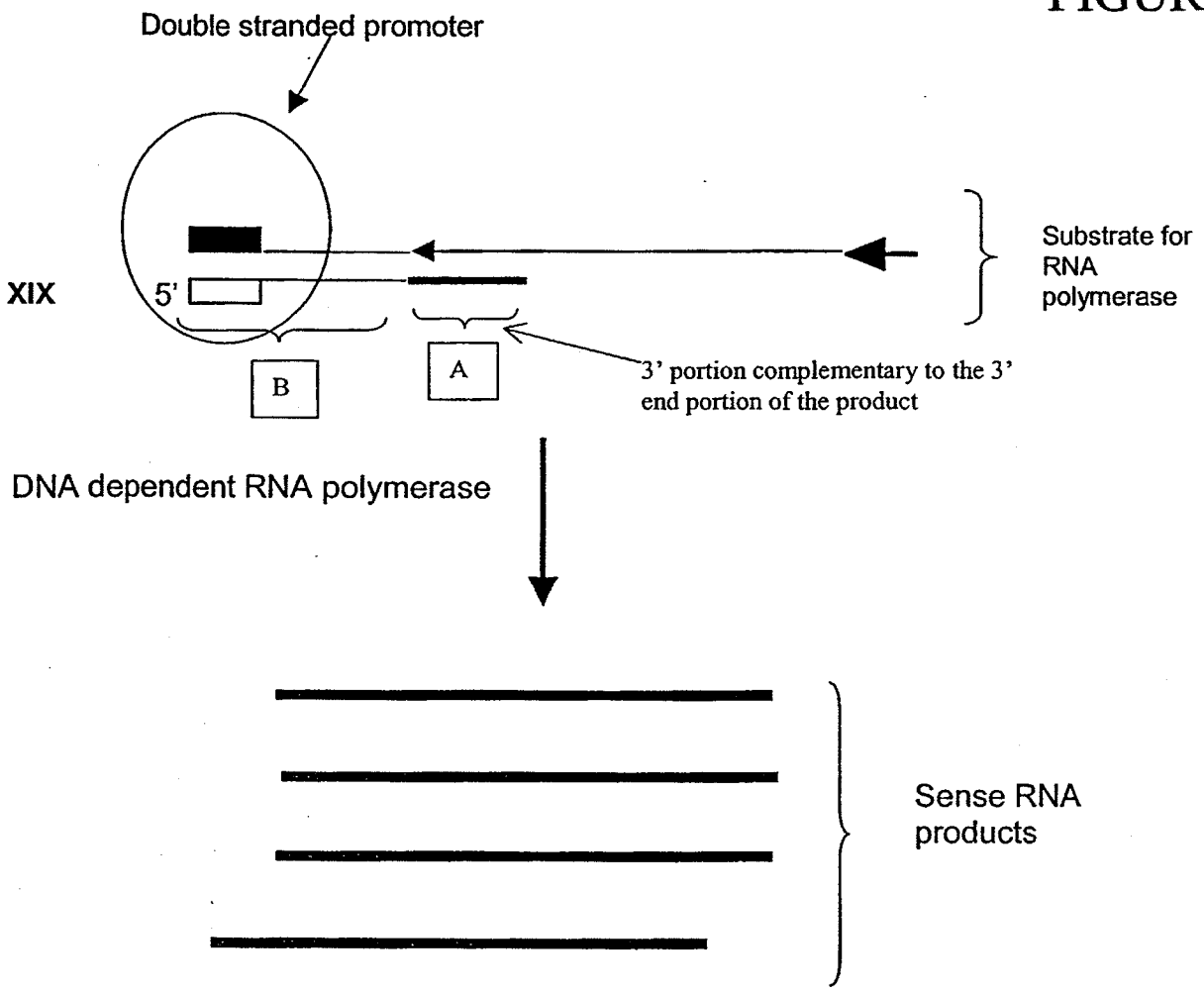

Double stranded promoter
XIX
5'
B
A
Substrate for RNA polymerase
3' portion complementary to the 3' end portion of the product
DNA dependent RNA polymerase
Sense RNA products

FIGURE 4A

X denotes a mutation on the target DNA at a site complementary to the 5' RNA portion of the primer.
As shown, amplification of the target NA is blocked when a mutation is present.

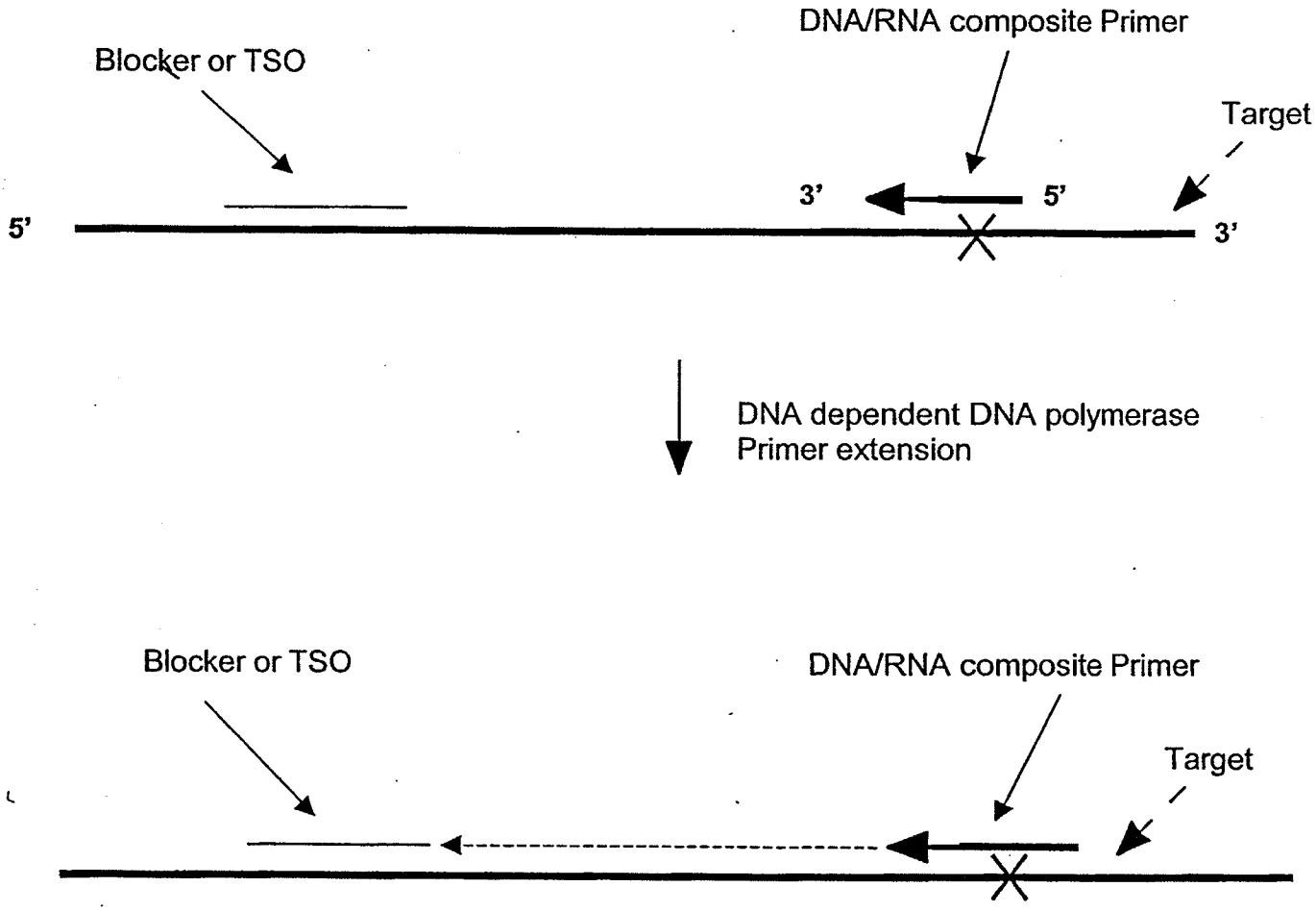


FIGURE 4B

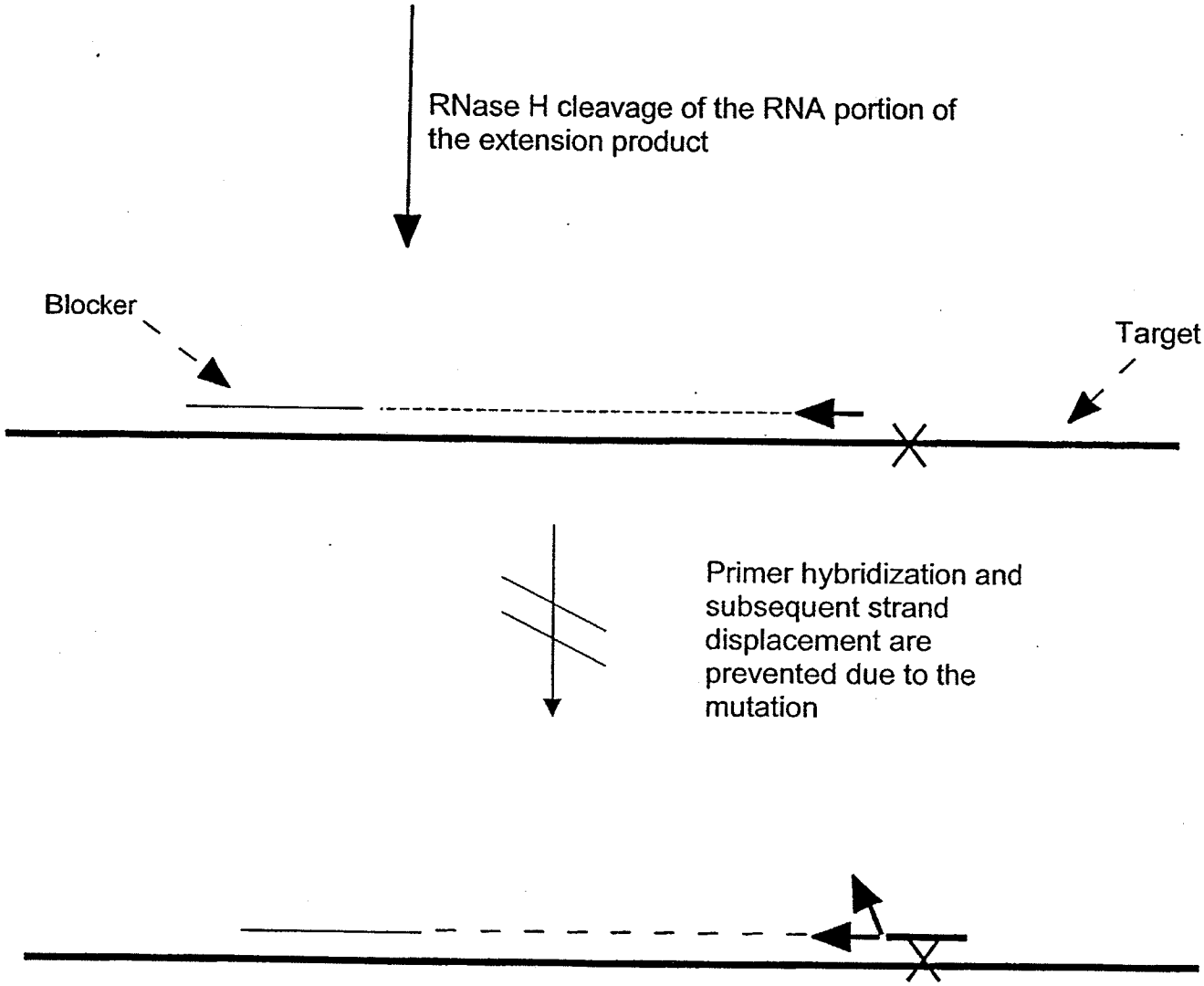
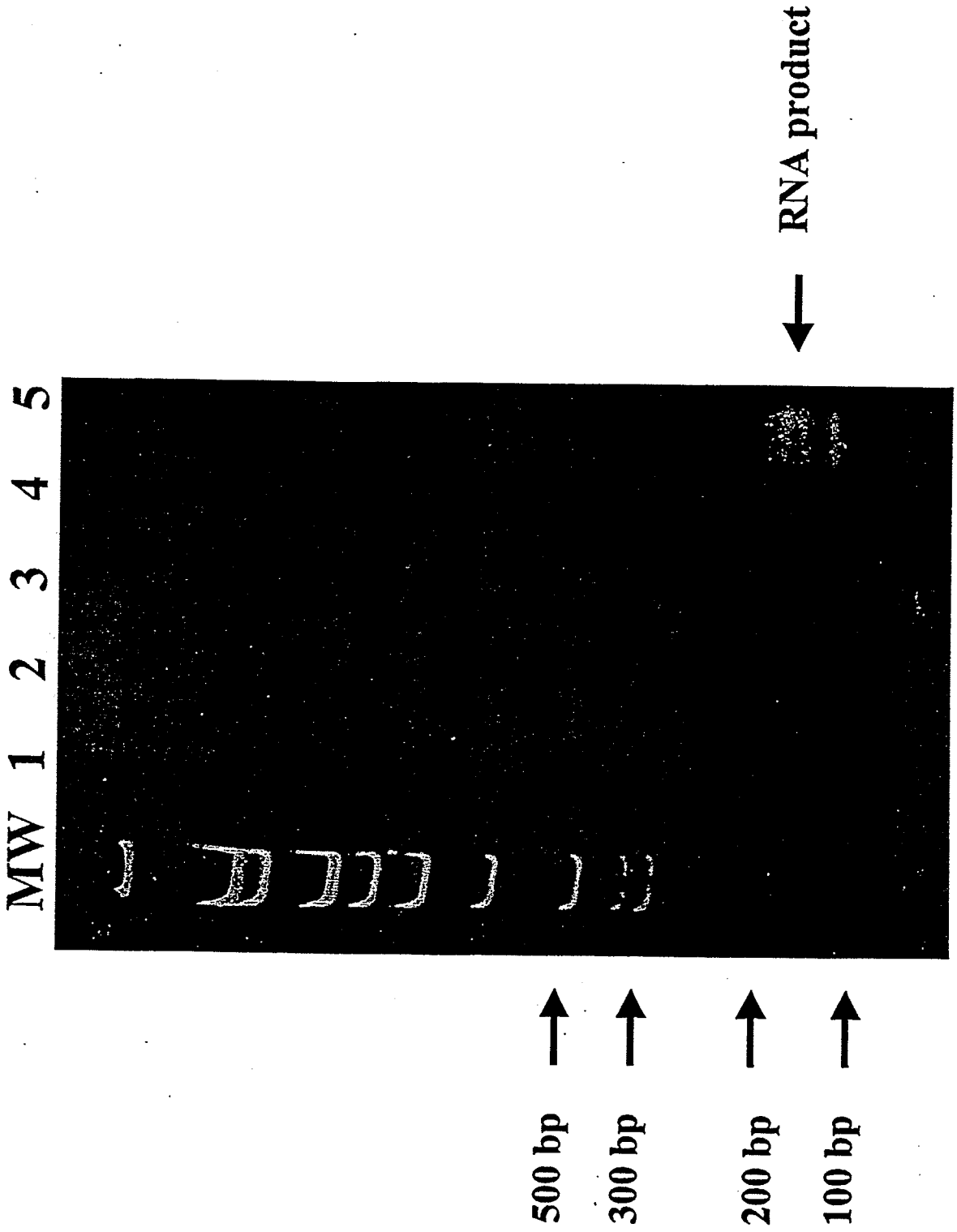

RNase H cleavage of the RNA portion of the extension product
Blocker
Target
Primer hybridization and subsequent strand displacement are prevented due to the mutation

Figure 5



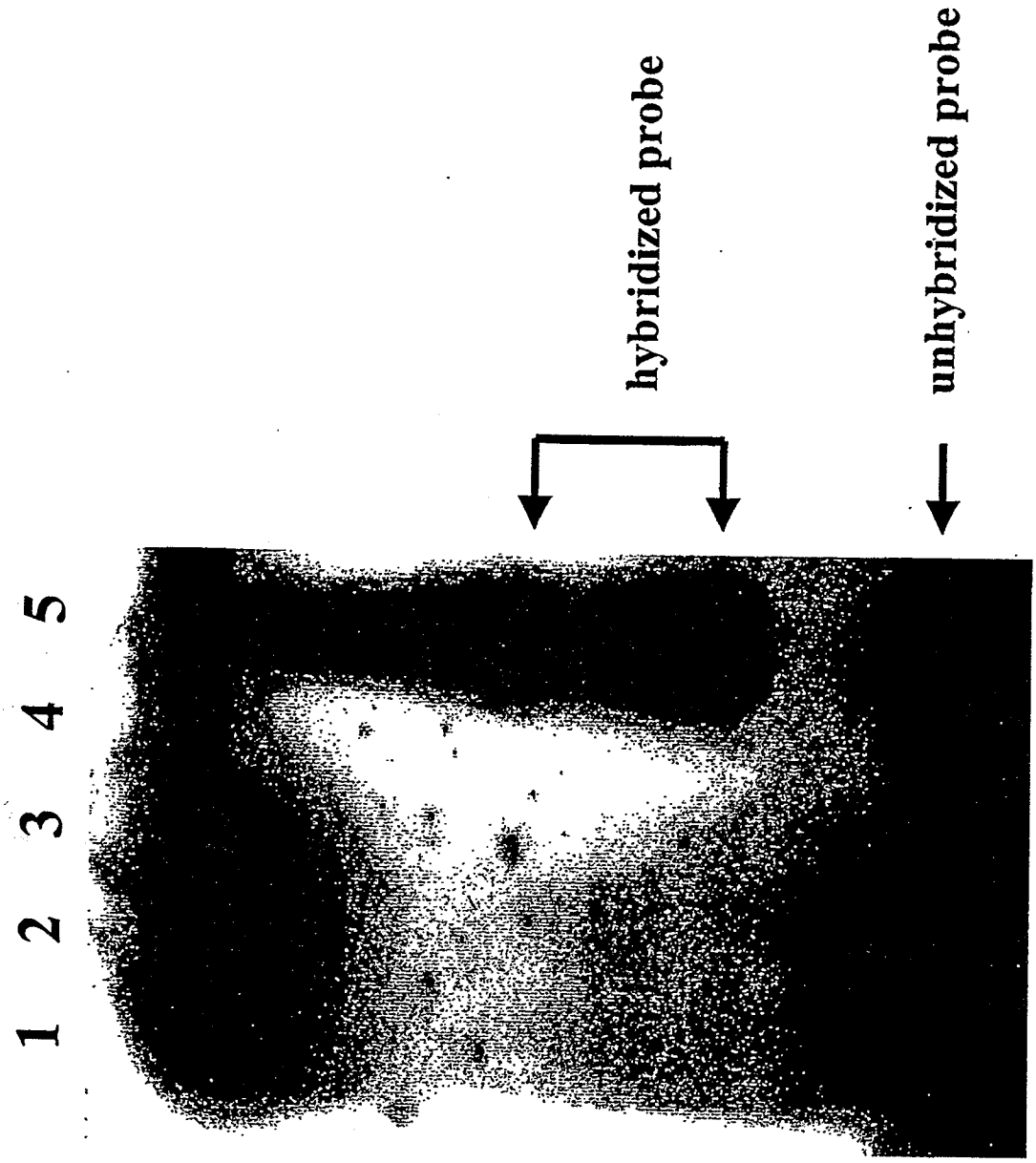


Figure 6

Figure 7

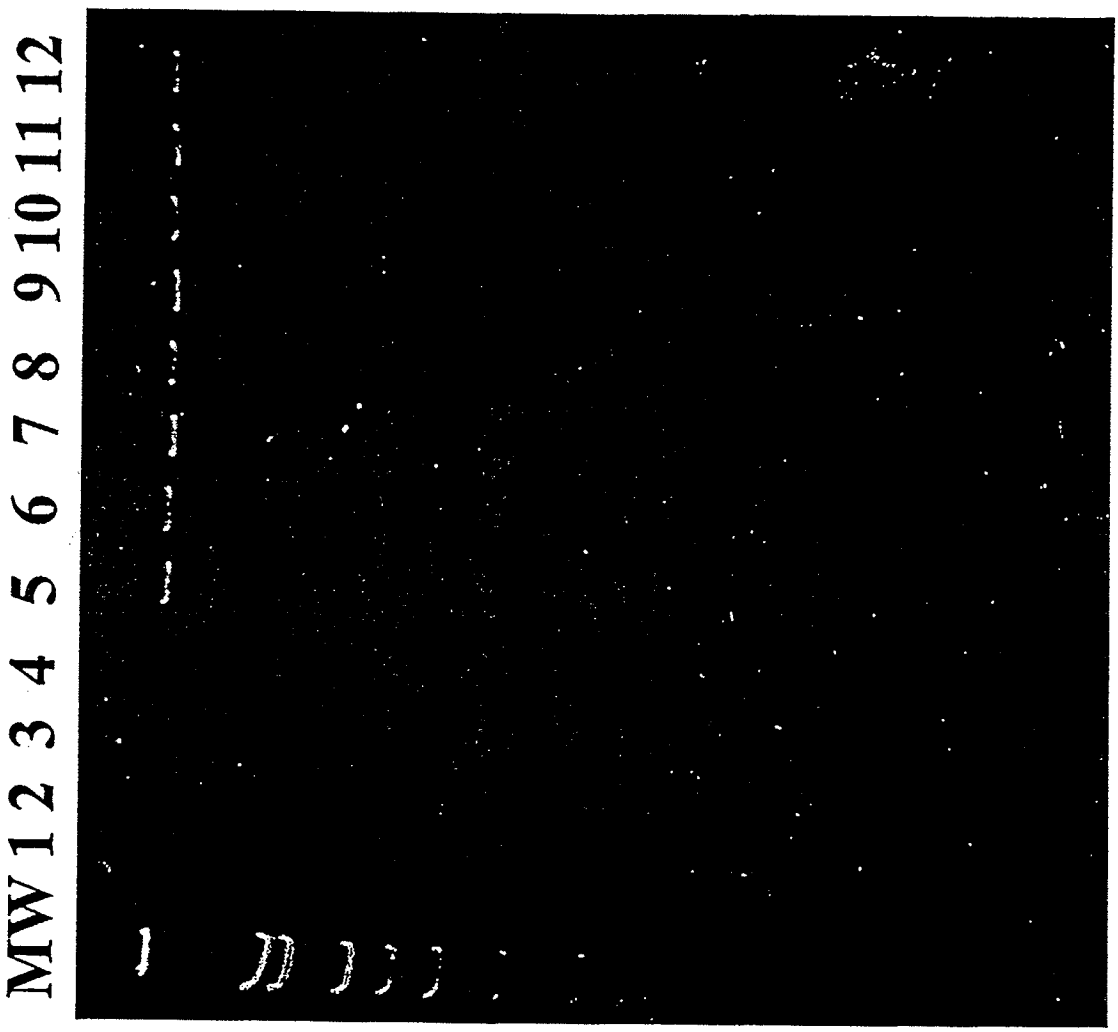


Figure 8

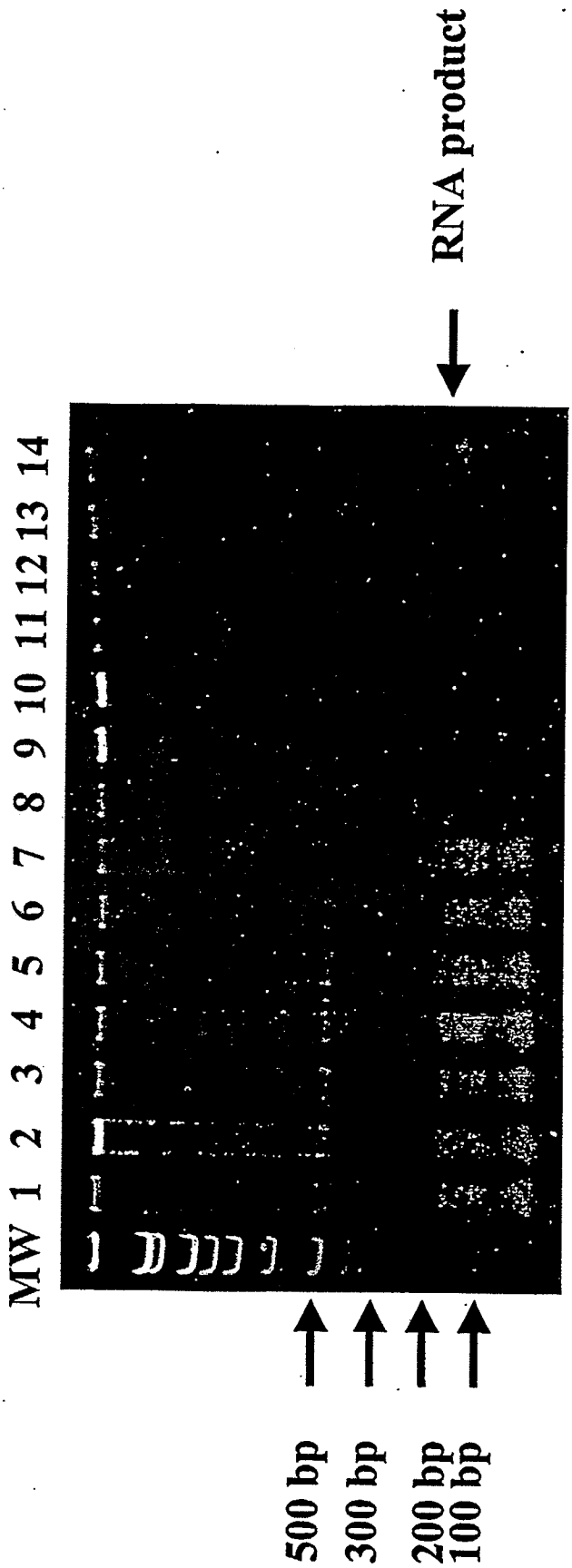

RNA product
MW 1 2 3 4 5 6 7 8 9 10 11 12 13 14
500 bp
300 bp
200 bp
100 bp

Figure 9

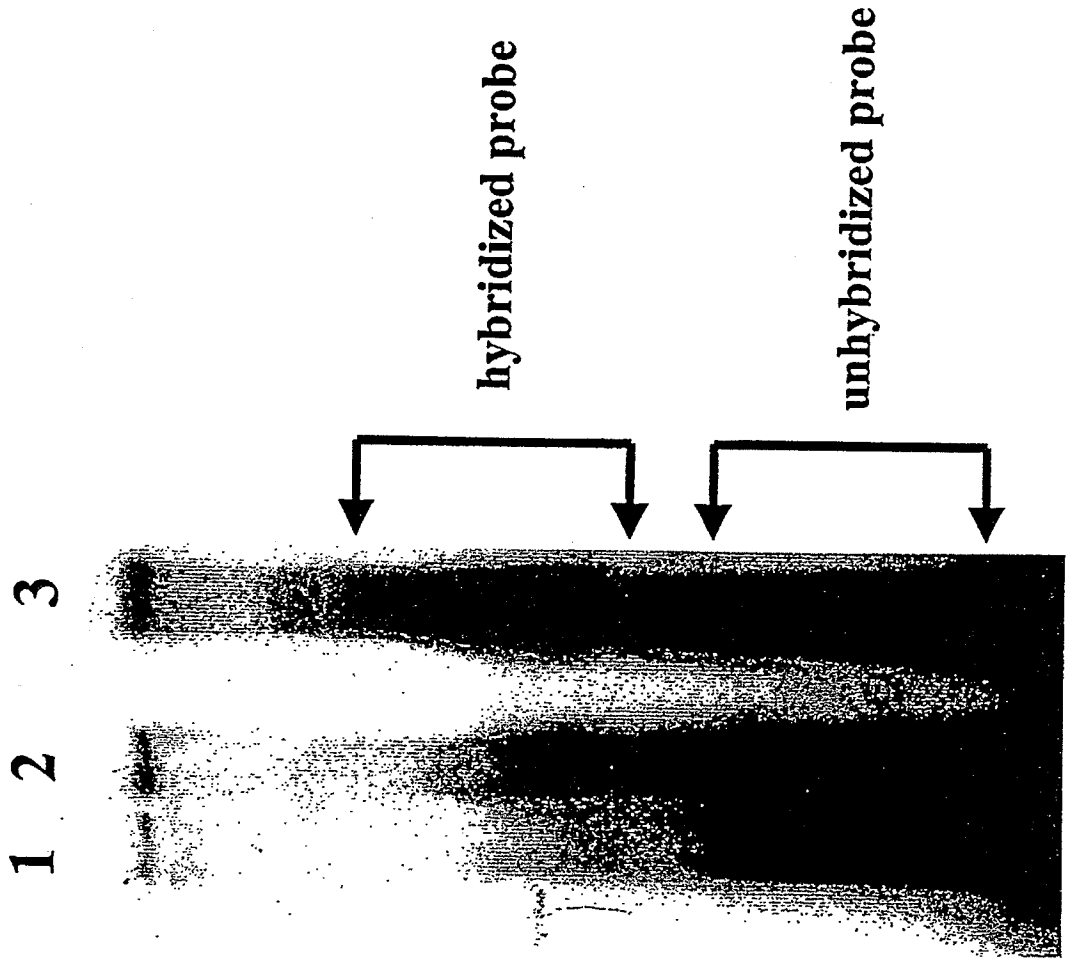


Figure 10

