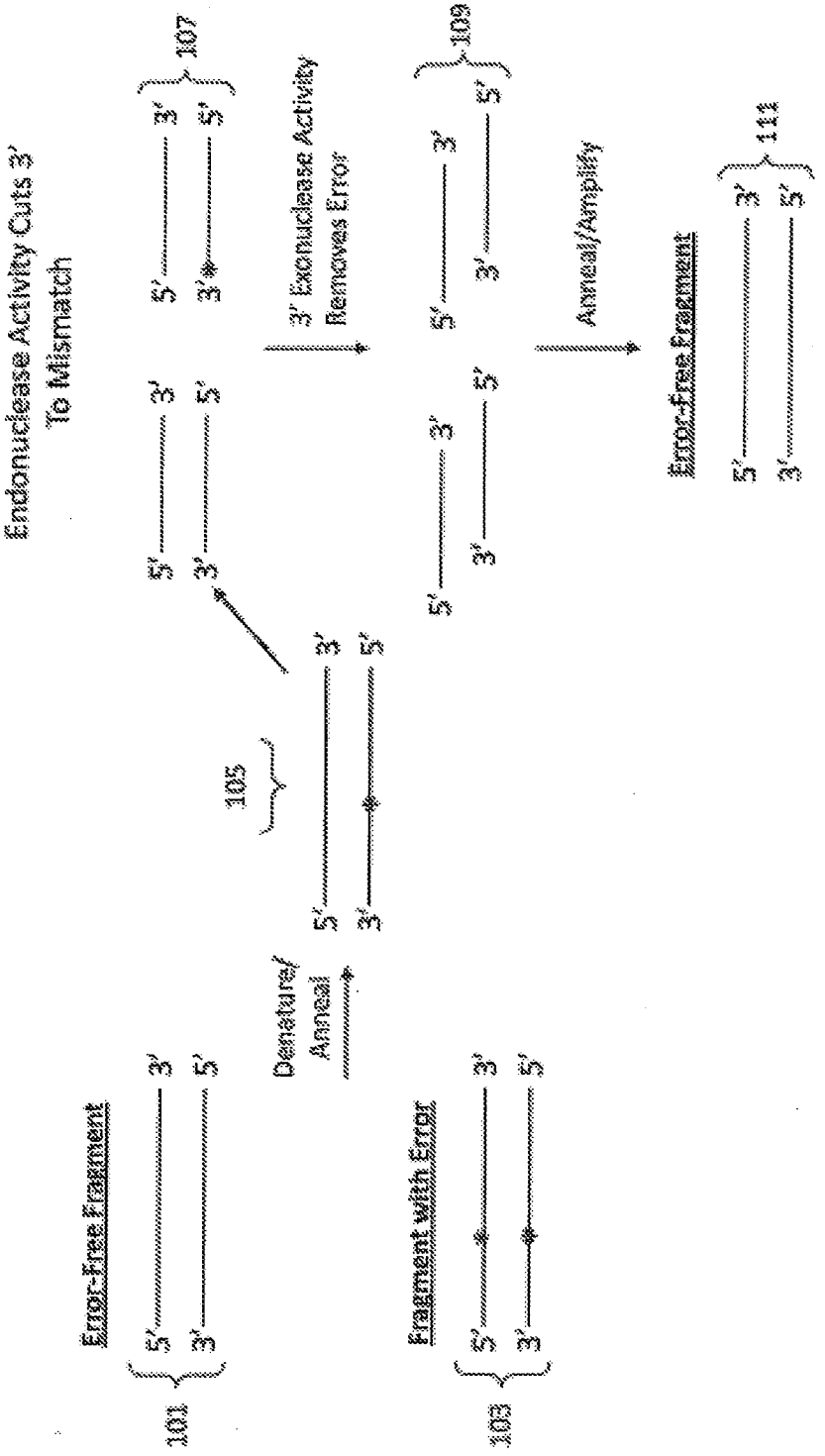
Error-Free Fragment
101
Denature/
Anneal
Fragment with Error
103
105
Endonuclease Activity Cuts 3'
To Mismatch
3' Exonuclease Activity
Removes Error
107
109
Anneal/Amplify
Error-free fragment
111

FIG. 1

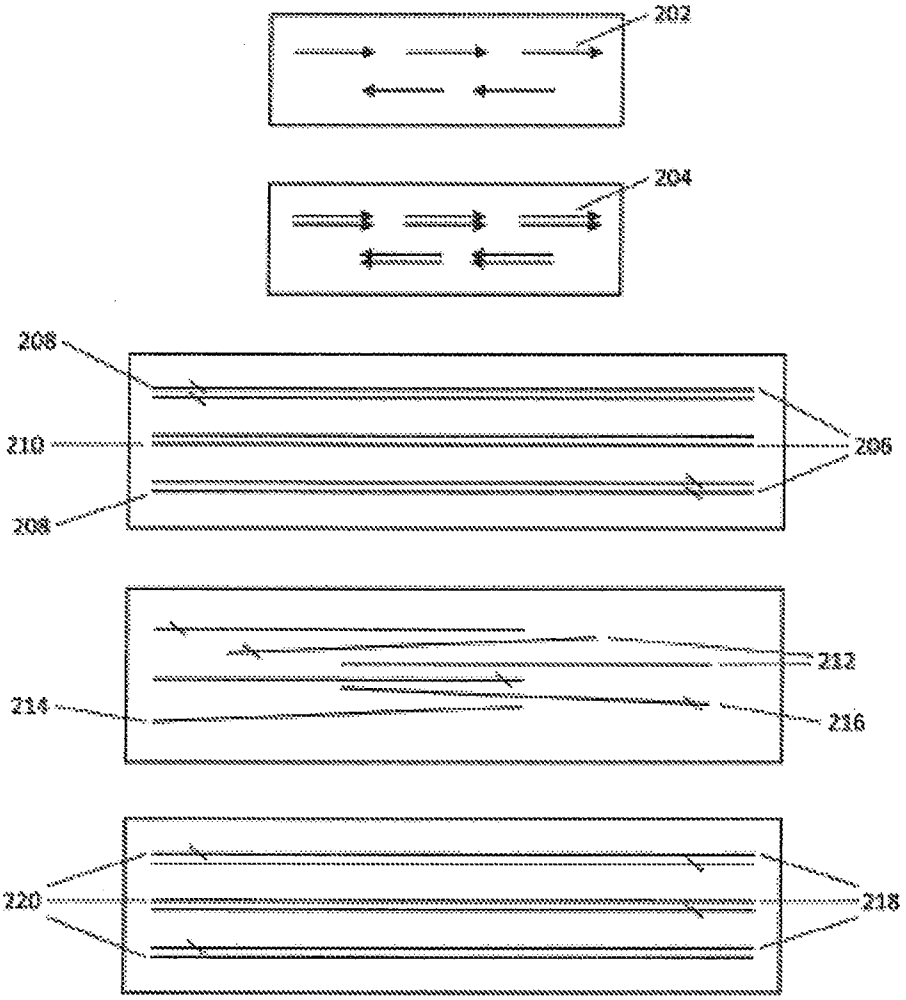

FIG. 2

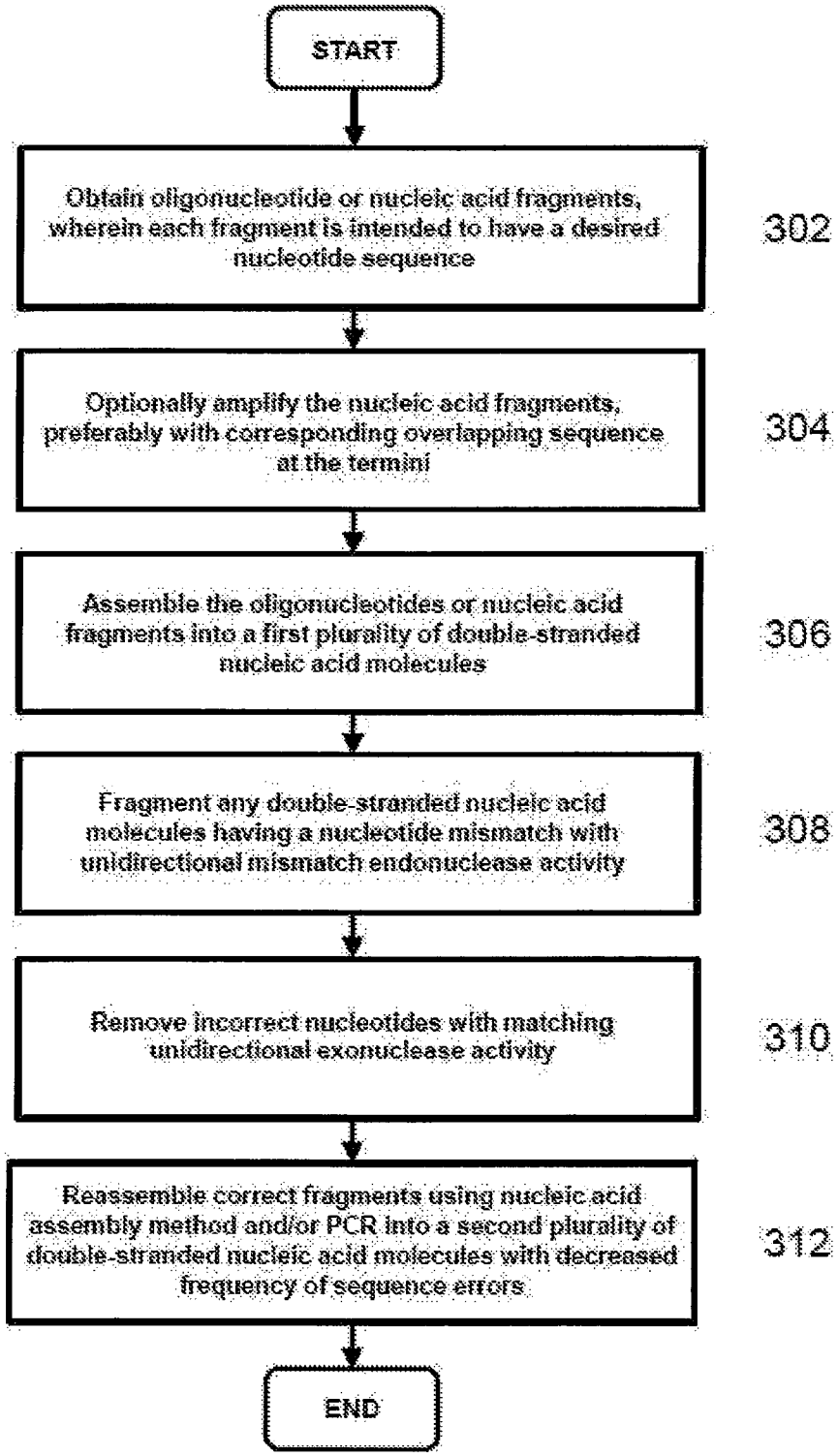
START
Obtain oligonucleotide or nucleic acid fragments, wherein each fragment is intended to have a desired nucleotide sequence
302
Optionally amplify the nucleic acid fragments, preferably with corresponding overlapping sequence at the termini
304
Assemble the oligonucleotides or nucleic acid fragments into a first plurality of double-stranded nucleic acid molecules
306
Fragment any double-stranded nucleic acid molecules having a nucleotide mismatch with unidirectional mismatch endonuclease activity
308
Remove incorrect nucleotides with matching unidirectional exonuclease activity
310
Reassemble correct fragments using nucleic acid assembly method and/or PCR into a second plurality of double-stranded nucleic acid molecules with decreased frequency of sequence errors
312
END

FIG. 3

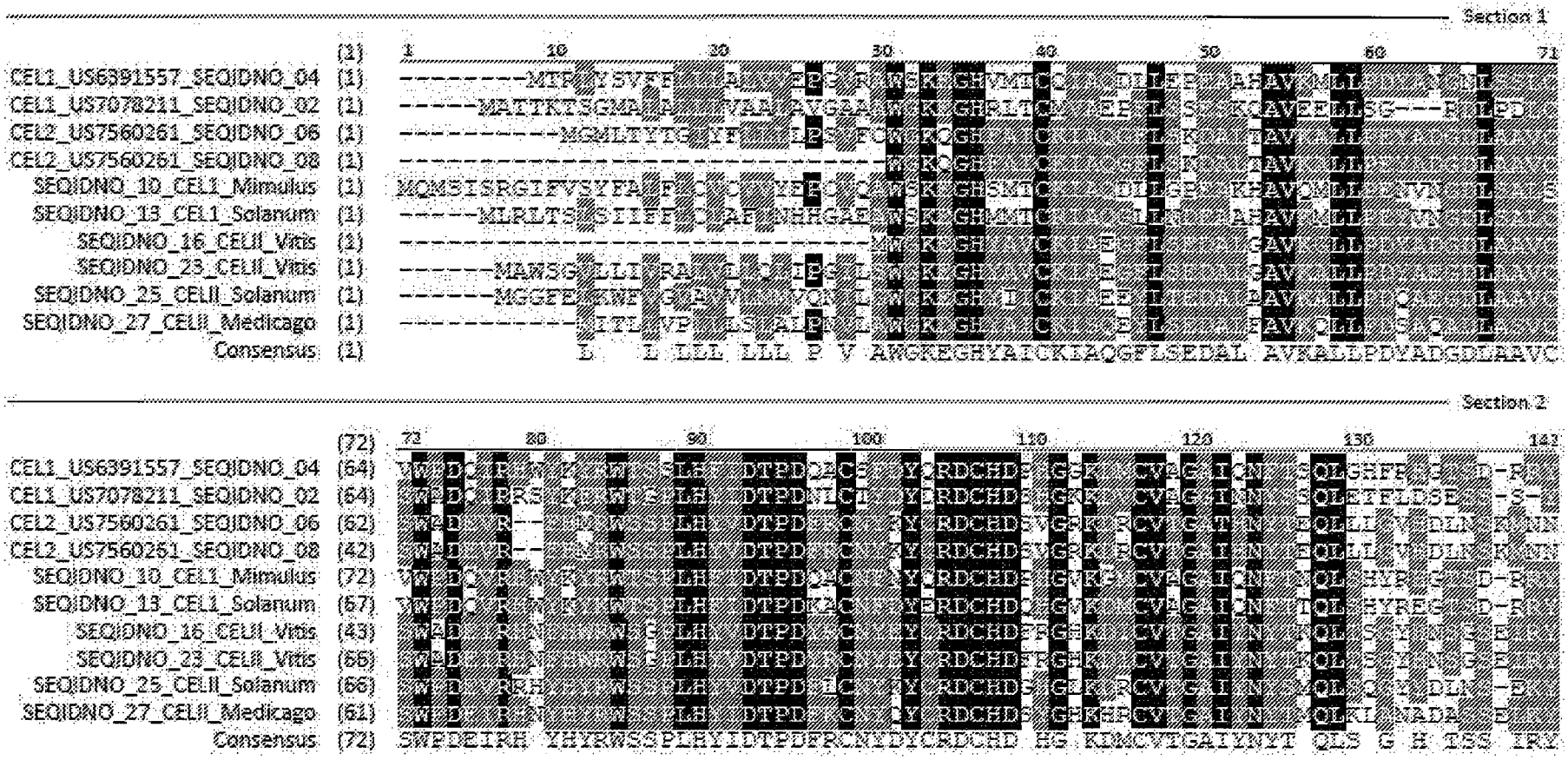

FIG. 4
(SHEET 1 OF 3)

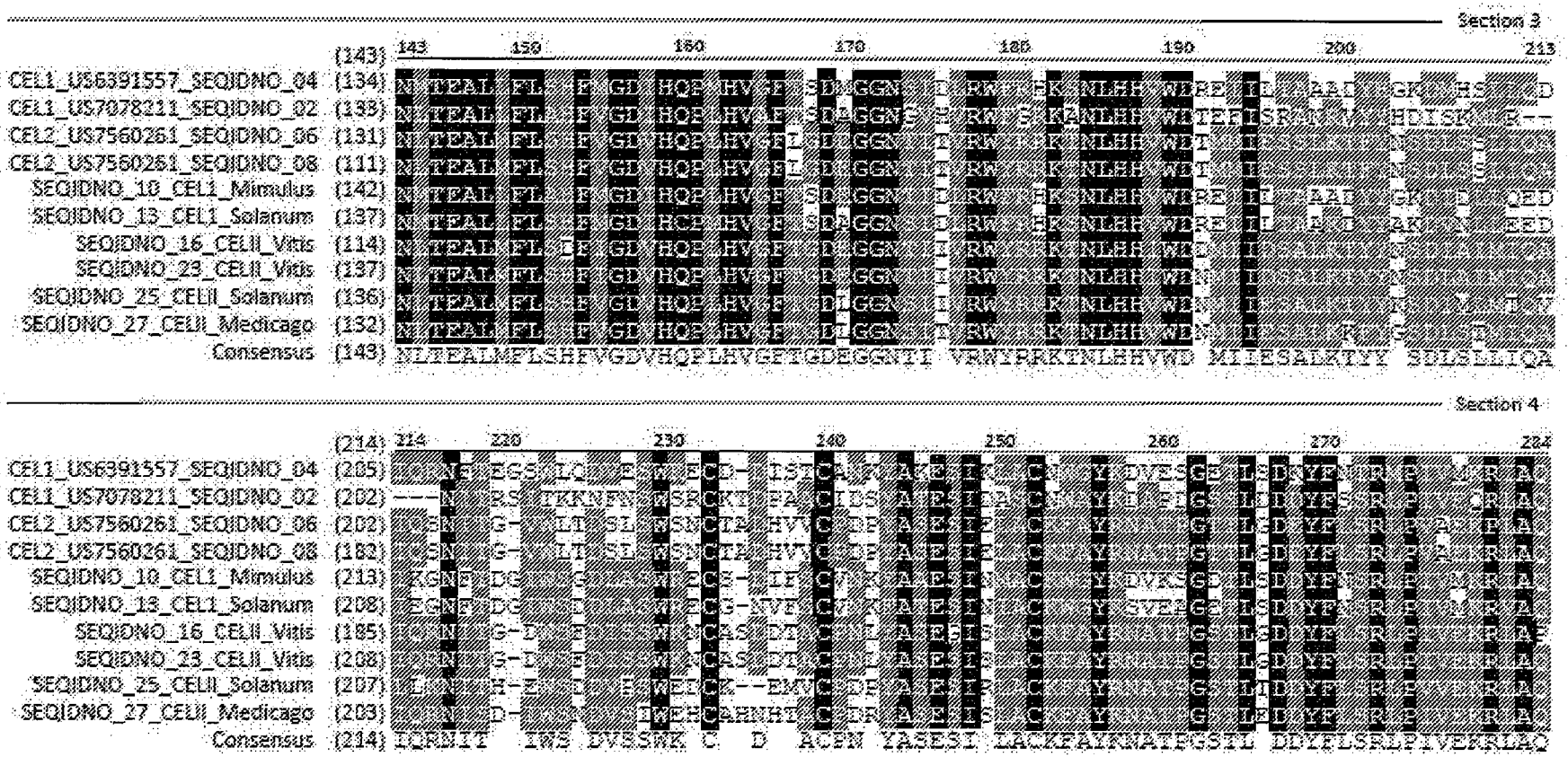

FIG. 4
(SHEET 2 OF 3)

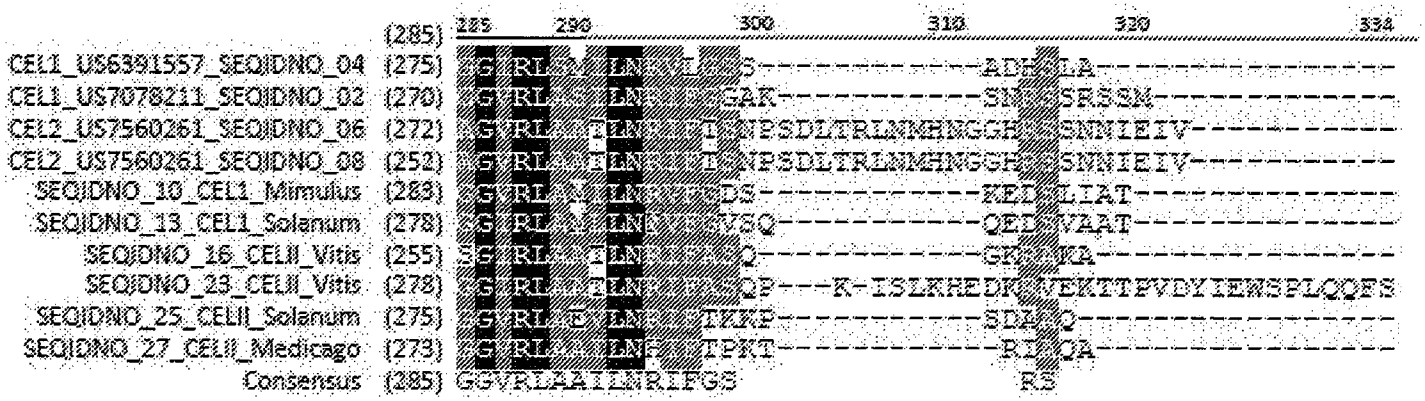

FIG. 4
(SHEET 3 OF 3)

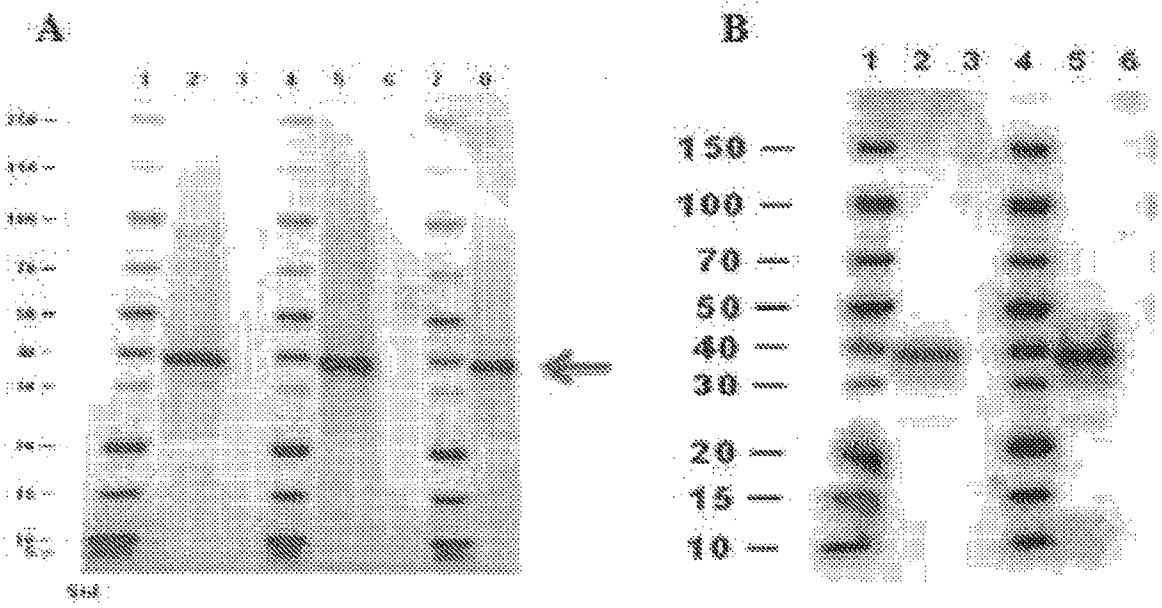

FIG. 5