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(54) Title: AMPLIFICATION OF NUCLEIC ACID FRAGMENTS USING NICKING AGENTS

(57) Abstract: The present invention relates to compounds, kits and methods for detecting a genetic variation in a target nucleic acid, detecting the presence, or the absence of a particular nucleic acid in a biological sample, preparing single-stranded nucleic acid probes, and detecting pre-mRNA differential splicing in a target cDNA molecule or a cDNA population. It utilizes a nicking agent in the amplification of a single-stranded nucleic acid fragment that either contains a genetic variation of the target nucleic acid, has a unique sequence correlating to the particular nucleic acid, is complementary to a nucleic acid of interest, or comprises an exon-exon junction. Detection and/or characterization of this short single-stranded nucleic acid fragment identifies the genetic variation of the target nucleic acid, indicates the presence of the particular nucleic acid in the sample, makes single-stranded nucleic acid probes for the nucleic acid of interest, or detecting the presence of the exon-exon junction in the target cDNA molecule or the cDNA probes.