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(54) Title: METHOD FOR DETERMINING POLYNUCLEOTIDE SEQUENCE VARIATIONS

(57) Abstract

A method of determining the presence and identity of a variation in a nucleotide sequence between a first polynucleotide and a second polynucleotide comprising, first, providing a sample of the first polynucleotide and selecting a region of the first polynucleotide potentially containing the variation. Then, the selected region is subjected to a template producing amplification reaction to produce a plurality of double stranded polynucleotide templates which include the selected region. Next, a family of labeled, linear polynucleotide fragments is produced from both strands of the template simultaneously by a fragment producing reaction using a set of primers. Then, the location and identity of at least some of the bases in the selected region of the first polynucleotide is determined using the labels present in the fragments. Next, the location and identity of the bases determined is compared with the location and identity of bases from a second polynucleotide, thereby identifying the presence and identity of a variation in a nucleotide sequence between the selected region of the first polynucleotide and a corresponding region of the second polynucleotide.