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- (71) Applicant: LUCENCE LIFE SCIENCES PTE. LTD.
[SG/SG]; 211 Henderson Road, #04-02, Henderson Industrial Park, Singapore 159552 (SG).
- (72) Inventors: POH, Jonathan; c/o 211 Henderson Road, #04-02, Henderson Industrial Park, Singapore 159552 (SG). CHOUDHURY, Yukti; c/o 211 Henderson Road, #04-02, Henderson Industrial Park, Singapore 159552 (SG). TAN, Min-Han; c/o 211 Henderson Road, #04-02, Henderson Industrial Park, Singapore 159552 (SG).
- (74) Agent: SPRUSON & FERGUSON (ASIA) PTE LTD; P.O. Box 1531, Robinson Road, Post Office, Singapore 903031 (SG).
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(54) Title: METHOD OF DETECTING SIGNATURES OF GENETIC INSTABILITY

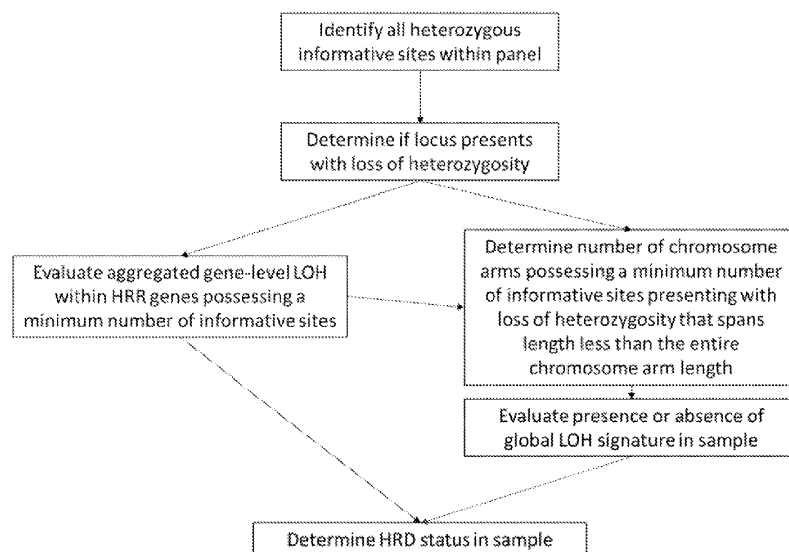


Fig. 5

(57) Abstract: Disclosed is a method of detecting signatures of genetic instability within a nucleic acid sample, comprising: (a) identifying a plurality of single nucleotide polymorphism (SNPs) at one or more pre-determined intervals across (i) one or more target chromosome arms and/or (ii) one or more target genes; (b) performing a plurality of multiplexed PCR reactions using a plurality of forward and reverse primer pairs that are capable of capturing the plurality of SNPs, wherein each primer comprises a target-specific sequence, a barcode sequence, and an adapter-specific sequence, thereby generating a plurality of amplicons; and (c) sequencing and analysing the plurality of amplicons. In particular, the signature of genetic instability is loss of heterozygosity (LOH). Also disclosed is a method of predicting and/or monitoring the response of a subject having a disorder associated with signatures of genetic stability towards treatment. In particular, the disorder is Homologous Recombination Deficiency (HRD).

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