

Title (en)

METHODS FOR DETERMINATION OF SINGLE NUCLEIC ACID POLYMORPHISMS USING A BIOELECTRONIC MICROCHIP

Title (de)

METHODEN ZUR BESTIMMUNG VON EINZELNUKLEOTIDPOLYMORPHISMEN DURCH VERWENDUNG EINES BIOELEKTRONISCHEN MIKROCHIPS

Title (fr)

PROCEDES DE DETERMINATION DE POLYMORPHISMES SINGULIERS DE NUCLEOTIDES A L'AIDE D'UNE PUCE BIOELECTRIQUE

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Application

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Abstract (en)

[origin: WO0061805A1] Methods are provided for the analysis and determination of the nature of single nucleic acid polymorphisms (SNPs) in a genetic target. In one method of this invention, the nature of the SNPs in the genetic target is determined by the steps of providing a plurality of hybridization complexes arrayed on a plurality of test sites on an electronically bioactive microchip, where the hybridization complex includes at least a nucleic acid target containing an SNP, a stabilizer probe having a sequence complementary to the target sequence and/or reporter probe, and a reporter probe having a selected sequence complementary to either the stabilizer or the same target sequence strand wherein a selected sequence of the reporter includes either a wild type nucleotide or a nucleotide corresponding to the SNP of the target. In accordance with the invention, the stabilizer, reporter and target amplicons are hybridized using electronic assistance of the microchip system such that base-stacking energies are utilized in discerning among other identifying indicators, the presence of wild type or polymorphism sequence. Applications include disease diagnostics, such as for the identification of polymorphisms in structural genes, regulatory regions, antibiotic or chemotherapeutic resistance conferring regions, or for SNPs associated with speciation or used for determination of genetic linkage.

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