

Title (en)

METHOD FOR THE ELECTROCHEMICAL DETECTION OF NUCLEIC ACID OLIGOMER HYBRIDS

Title (de)

VERFAHREN ZUR ELEKTROCHEMISCHEN DETEKTION VON NUKLEINSÄUREOLIGOMERHYBRIDEN

Title (fr)

PROCEDE DE DETECTION ELECTROCHIMIQUE D'HYBRIDES D'ACIDES NUCLEIQUES-OLIGOMERES

Publication

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Application

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Abstract (en)

[origin: US7056664B1] The invention relates to a method for the electrochemical detection of sequence-specific nucleic acid oligomer hybridization events. To this end single DNA/RNA/PNA oligomer strands which at one end are covalently joined to a support surface and at the other, free end, covalently linked to a redox pair, are used as hybridization matrix (probe). As a result of treatment with the oligonucleotide solution (target) to be examined, the electric communication between the conductive support surface and the redox pair bridged by the single-strand oligonucleotide, which communication initially is either absent or very weak, is modified. In case of hybridization, the electric communication between the support surface and the redox pair, which is now bridged by a hybridized double-strand oligonucleotide, is increased. This permits the detection of a hybridization event by electrochemical methods such as cyclic voltametry, amperometry or conductivity measurement.

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