

Title (en)
NUCLEIC ACID SENSOR

Title (de)
NUKLEINSÄURE-SENSOR

Title (fr)
CAPTEUR D'ACIDE NUCLEIQUE

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Application
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Priority
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Abstract (en)
[origin: WO9744651A1] The present invention provides biosensors and methods for the detection selected nucleic acid sequences. In one form the biosensor comprises an electrode and a bilayer membrane having a top and a bottom layer. The bottom layer being proximal to and connected to the electrode in a manner such that a space exists between the membrane and the electrode, with the conductance or impedance of the membrane being dependent on the presence or absence of the selected nucleic acid sequence. The membrane comprises a closely packed array of amphiphilic molecules and a plurality of ion channels comprising first half membrane spanning monomers dispersed in the top layer and second half membrane spanning monomers dispersed in the bottom layer. The first half membrane spanning monomers are capable of lateral diffusion within the upper layer and the second half membrane-spanning monomers are prevented from lateral diffusion within the bottom layer. A first ligand specifically reactive with the selected nucleic acid sequence is attached to an end of a proportion of the first half membrane-spanning monomers proximal the surface of the membrane and a second ligand reactive with the selected nucleic acid or marker attached thereto is attached to an end of the remainder of the first half membrane-spanning monomers proximal the surface of the membrane.

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