

Title (en)

DEVICE AND METHOD FOR MULTIPLEXED DETECTION OF NUCLEIC ACID SEQUENCES

Title (de)

VORRICHTUNG UND VERFAHREN ZUM MULTIPLEX-NACHWEIS VON NUKLEINSÄURESEQUENZEN

Title (fr)

DISPOSITIF ET PROCEDE DE DETECTION MULTIPLEXEE DE SEQUENCES D'ACIDES NUCLEIQUES

Publication

**EP 4377475 A1 20240605 (FR)**

Application

**EP 22764443 A 20220728**

Priority

- FR 2108385 A 20210730
- FR 2022051520 W 20220728

Abstract (en)

[origin: WO2023007097A1] A device for multiplexed detection of nucleic acid sequences comprises a thermal cycler (4) arranged to perform a series of thermal cycles with an in vitro nucleic acid extraction reagent containing at least two fluorescence probes combining a quencher and a fluorophore, the fluorescence probes each being arranged to target a distinct nucleic acid sequence and the fluorophores having overlapping fluorescence wavelength ranges, a light sensor (6) arranged to measure radiation emitted by the fluorophores in the fluorescence wavelength ranges, the radiation emitted by each probe varying depending on whether the latter is in a non-modified state in which the quencher mitigates, or does not substantially mitigate, the fluorescence emission, or in a modified state in which the quencher has an opposite effect on the fluorescence emission, and an analyser (8) arranged to determine, for each respective fluorescence probe, a value representative of a concentration in a modified state from time signatures derived from the measured fluorescence as a function of time for a given thermal cycle of a reaction mixture comprising one or more probes, which may each be substantially entirely in a non-modified or modified state, and at least two measurements carried out during at least some of the thermal cycles, which values representative of a concentration in a modified state make it possible to qualify the presence of one or more nucleic acid sequences each associated with a distinct fluorescence probe so as to cause the fluorescence probe to change from the non-modified state to the modified state during interaction.

IPC 8 full level

**C12Q 1/686** (2018.01)

CPC (source: EP KR)

**C12Q 1/686** (2013.01 - EP KR); **C12Q 2537/143** (2013.01 - KR); **C12Q 2561/113** (2013.01 - KR); **C12Q 2565/101** (2013.01 - KR)

C-Set (source: EP)

**C12Q 1/686** + **C12Q 2537/143** + **C12Q 2561/113** + **C12Q 2565/101**

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

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KH MA MD TN

DOCDB simple family (publication)

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DOCDB simple family (application)

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