

Title (en)

ELECTRONIC DETECTION OF A TARGET BASED ON ENZYMATIC CLEAVAGE OF A REPORTER MOIETY

Title (de)

ELEKTRONISCHE DETEKTION EINES ZIELS AUF BASIS VON ENZYMATISCHER SPALTUNG EINER REPORTEREINHEIT

Title (fr)

DÉTECTION ÉLECTRONIQUE D'UNE CIBLE SUR LA BASE D'UN CLIVAGE ENZYMATIQUE D'UNE FRACTION RAPPORTEUR

Publication

EP 3990630 A1 20220504 (EN)

Application

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Priority

- US 201916459298 A 20190701
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- US 201962866312 P 20190625
- US 2020039678 W 20200625

Abstract (en)

[origin: CA3144955A1] Apparatuses, systems, and methods are disclosed for target detection based on collateral cleavage of a reporter (730) by an enzyme (720). A biologically gated transistor (106) may include a channel (710) and a reporter moiety (730) immobilized to the channel (710). The state of the reporter moiety (730) affects output signals from the biologically gated transistor (106) when excitation conditions are applied to the biologically gated transistor (106) and a sample fluid (110) is applied in contact with the channel (710). A sample fluid (110) may include an enzyme (720) configured to activate in response to a target nucleic acid (722) to cleave the reporter moiety (730). Excitation circuitry (1502) applies the excitation conditions, and measurement circuitry (1504) measures output signals from the biologically gated transistor (106). An analysis module (116) determines a parameter relating to presence of the target nucleic acid (722), based on the one or more measurements.

IPC 8 full level

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