

Title (en)
OPTICALLY-BASED NANOPORE SEQUENCING USING QUENCHING AGENTS

Title (de)
OPTISCHE NANOPORENSEQUENZIERUNG MIT QUENCHERN

Title (fr)
SÉQUENÇAGE PAR NANOPORES À BASE OPTIQUE À L'AIDE D'AGENTS D'EXTINCTION

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Application
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Priority

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Abstract (en)
[origin: WO2018034807A1] The present invention is directed to methods and compositions for optically based polynucleotide analysis using nanopores wherein quenching agents are used to reduce or eliminate spurious optical signals generated by polynucleotide labels outside of detection zones. In some embodiments, the invention may be implemented with the following steps: translocating a polynucleotide through a nanopore, wherein different kinds of nucleotides of the polynucleotide are labeled with different fluorescent labels that generate distinguishable fluorescent signals and wherein the nanopore constrains the nucleotides to move single file through a detection zone; exciting the fluorescent labels; quenching fluorescent signals from excited fluorescent labels outside of the detection zone using one or more non-fluorescent quenching agents; detecting fluorescent signals emitted from the fluorescent labels as the fluorescent labels pass through the detection zone; and determining a sequence of nucleotides from the detected fluorescent signals.

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2. **C12Q 1/6869** + **C12Q 2563/125**

Citation (search report)

- [Y] US 2013203050 A1 20130808 - HUBER MARTIN [US], et al
- [Y] US 2012270221 A1 20121025 - BRUNO JOHN G [US], et al
- [Y] US 2016122812 A1 20160505 - HUBER MARTIN [US]
- [Y] WO 2016065339 A1 20160428 - QUANTAPORE INC [US]
- [E] WO 2017180319 A1 20171019 - QUANTAPORE INC [US]
- [E] WO 2018034807 A1 20180222 - QUANTAPORE INC [US]
- See references of WO 2018034807A1

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