

## Title (en)

METHODS FOR DETERMINING ABSOLUTE GENOME-WIDE COPY NUMBER VARIATIONS OF COMPLEX TUMORS

## Title (de)

VERFAHREN ZUR BESTIMMUNG DER ABSOLUTEN GENOMWEITEN KOPIENZAHIVERÄNDERUNGEN KOMPLEXER TUMOREN

## Title (fr)

PROCÉDÉS DE DÉTERMINATION DES VARIATIONS DU NOMBRE DE COPIES ABSOLU À L'ÉCHELLE DU GÉNOME DE TUMEURS COMPLEXES

## Publication

**EP 2844771 A4 20151202 (EN)**

## Application

**EP 13784660 A 20130506**

## Priority

- US 201261643225 P 20120504
- US 2013039777 W 20130506

## Abstract (en)

[origin: WO2013166517A1] Methods for interpreting absolute copy number of complex tumors and for determining the copy number of a genomic region at a detection position of a target sequence in a sample are disclosed. In certain aspects, genomic regions of a target sequence in a sample are sequenced and measurement data for sequence coverage is obtained. Sequence coverage bias is corrected and may be normalized against a baseline sample. Hidden Markov Model (HMM) segmentation, scoring, and output are performed, and in some embodiments population-based no-calling and identification of low-confidence regions may also be performed. A total copy number value and region-specific copy number value for a plurality of regions are then estimated.

## IPC 8 full level

**C12Q 1/68** (2006.01); **G16B 20/10** (2019.01); **G16B 20/20** (2019.01); **G16B 30/10** (2019.01); **G16B 30/20** (2019.01)

## CPC (source: CN EP US)

**C12Q 1/6827** (2013.01 - CN EP); **C12Q 1/6886** (2013.01 - CN EP); **G16B 20/00** (2019.01 - EP); **G16B 20/10** (2019.01 - CN EP US); **G16B 20/20** (2019.01 - CN EP US); **G16B 30/00** (2019.01 - CN EP); **G16B 30/10** (2019.01 - CN EP US); **G16B 30/20** (2019.01 - CN EP US); **C12Q 2600/156** (2013.01 - CN EP)

## Citation (search report)

- [X] US 2012095697 A1 20120419 - HALPERN AARON [US], et al
- [E] WO 2014039556 A1 20140313 - GUARDANT HEALTH INC [US], et al
- [A] ATIYEH E F ET AL: "Genomic copy number determination in cancer cells from single nucleotide polymorphism microarrays based on quantitative genotyping corrected for aneuploidy", GENOME RESEARCH, COLD SPRING HARBOR LABORATORY PRESS, vol. 19, no. 2, 13 January 2009 (2009-01-13), pages 276 - 283, XP002614410, ISSN: 1088-9051, [retrieved on 20090113], DOI: 10.1101/GR.075671.107
- [A] STAAF J ET AL: "Segmentation-based detection of allelic imbalance and loss-of-heterozygosity in cancer cells using whole genome SNP arrays", GENOME BIOLOGY, BIOMED CENTRAL LTD., LONDON, GB, vol. 9, no. 9, 16 September 2008 (2008-09-16), pages R136, XP021046979, ISSN: 1465-6906, DOI: 10.1186/GB-2008-9-9-R136
- [A] BEROUKHIM R ET AL: "Inferring Loss-of-Heterozygosity from Unpaired Tumors Using High-Density Oligonucleotide SNP Arrays", BIOINFORMATICS, vol. 19, no. 5, 12 May 2006 (2006-05-12), pages 2397, XP055085786, ISSN: 1367-4803, DOI: 1367-4803(2003)019[2397:AFLGM]2.0.CO;2
- See references of WO 2013166517A1

## Cited by

RU2768718C2; CN117520928A

## 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

## DOCDB simple family (publication)

**WO 2013166517 A1 20131107**; CN 104428425 A 20150318; EP 2844771 A1 20150311; EP 2844771 A4 20151202; HK 1203220 A1 20151023

## DOCDB simple family (application)

**US 2013039777 W 20130506**; CN 201380034335 A 20130506; EP 13784660 A 20130506; HK 15103681 A 20150415