

Title (en)
CELL-FREE DNA SEQUENCE DATA ANALYSIS METHOD TO EXAMINE NUCLEOSOME PROTECTION AND CHROMATIN ACCESSIBILITY

Title (de)
ZELLFREIES DNA-SEQUENZDATENANALYSEVERFAHREN ZUR UNTERSUCHUNG DES NUKLEOSOMSCHUTZES UND DER CHROMATZUGÄNGLICHKEIT

Title (fr)
PROCÉDÉ D'ANALYSE DE DONNÉES DE SÉQUENCE D'ADN ACELLULAIRE POUR EXAMINER LA PROTECTION DU NUCLÉOSOME ET L'ACCESSIBILITÉ DE LA CHROMATINE

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Application
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Priority
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Abstract (en)
[origin: WO2022217096A2] In one aspect, the disclosure provides a computer-implemented method of enhancing sequence read data from cell-free DNA samples for cell type prediction. The method comprises receiving sequence read data that includes a plurality of fragment reads, wherein each fragment read has a fragment length and a GC content indicating a percentage of bases in the fragment read that are G or C. GC bias values are determined a computing system for each fragment read based on the fragment length and the GC content of the fragment read. A genomic coverage distribution is generated that is adjusted for GC bias using the sequence read data and the GC bias values. Based on the genomic coverage distribution, the cell type is predicted. This method can be leveraged to assess cell subtypes and phenotypes based on cell free DNA present in biological samples for, e.g., cancer diagnosis, monitoring, and precision therapy.

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