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(54) Title: METHOD AND SYSTEM OF MULTI-MODAL SUB-CELLULAR SEGMENTATION

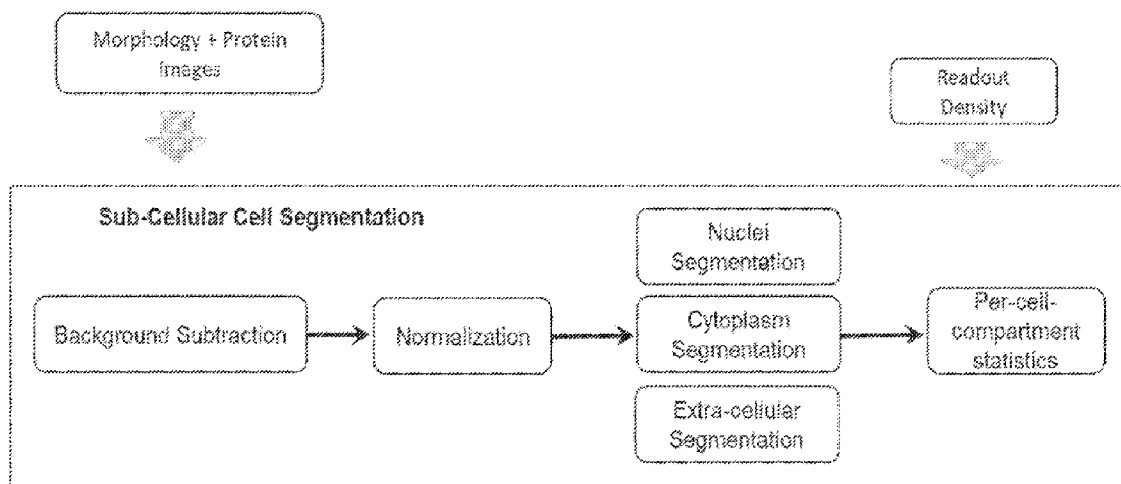


FIG. 14

(57) Abstract: Described herein are systems and methods of multi-modal subcellular segmentation using photo-cleavable biomarkers and/or transcriptomic readout density maps. The systems and methods provide an improvement in cell segmentation accuracy for nuclei, cytoplasm and membrane regions through the use of optical and bleaching corrections from multiple sources of photo-cleavable morphology markers in combination with high-quality 3D images acquired with high-dynamic range scanning, and spatial transcriptomic readout density maps.



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- *of inventorship (Rule 4.17(iv))*

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**A. CLASSIFICATION OF SUBJECT MATTER**  
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 ADD. C12Q 1/6804 (2024.01)

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ADD. C12Q 1/6804, C12Q 2563/179, G06T 2207/00, G06T 2207/30024

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
 See Search History document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
 See Search History document

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
 See Search History document

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2021/076928 A1 (NANOSTRING TECHNOLOGIES, INC.) 22 April 2021 (22.04.2021) entire document especially Abstract, para [0002], para [0006]-[0010], para [0024]-[0034], para [0042]-[0051], para [0063]-[0064], para [0073]-[0075], para [0102]-[0105], para [0111]-[0116]	1-41
Y	US 2023/0100912 A1 (INSIGHTEC, LTD) 30 March 2023 (30.03.2023) entire document especially Abstract, para [0002], para [0011]-[0020], para [0023]-[0031], para [0040]-[0045]	1-41
A	US 2014/0314299 A1 (General Electric Company) 23 October 2014 (23.10.2014) entire document	1-41

Further documents are listed in the continuation of Box C.

See patent family annex.

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| "P" document published prior to the international filing date but later than the priority date claimed  |  |

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