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(54) Title: METHOD FOR DETECTING THE PRESENCE OF A CELL OF INTEREST OR A CELLULAR FRAGMENT OF INTEREST IN A SAMPLE OF ORGANIC FLUID

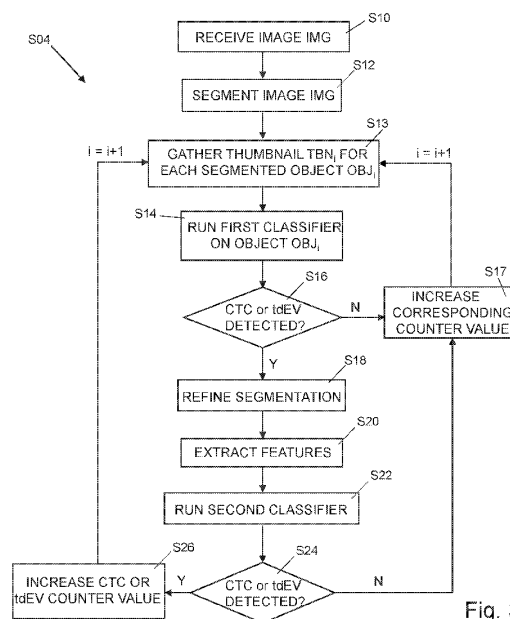


Fig. 3

(57) Abstract: For detecting the presence of a cell of interest and/or a cellular fragment of interest in a sample of organic fluid, a method comprises: providing (S01) the sample of organic fluid obtained from an individual; processing the sample (S02A, S02B) including marking the sample with at least one marker specific for the cell of interest and/or the cellular fragment of interest, the marker/s being identifiable by selective imaging. The method further comprises, by a control unit (20): acquiring (S03, S10-S13) at least one image (IMG, TBN_i) of the marked sample, the image comprising at least one marker-stained object (32, OBJ_i) to be classified; classifying (S04) the marker-stained object; and determining whether the marker-stained object is a cell of interest or a

[Continued on next page]

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cellular fragment of interest thereof based on a result of the classification of the marker-stained object. The classification of the marker-stained object comprises : running, by a first classifier (24), starting from the image, a first machine learning algorithm based on classification and trained to identify if a marker-stained object in an image is a cell of interest or a cellular fragment of interest; and validating an output of the first classifier by running, by a second classifier (28, 28A, 28B), starting from the image, a second machine learning algorithm based on classification and trained to identify if a marker-stained object in an image is a cell of interest or a cellular fragment of interest. The first and the second classifiers have been trained by using different training models.