

Automatic Algorithm for Processing and Analysis of Images from the Comet Assay

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Abstract : The comet assay is a method based on electrophoresis that is used to measure DNA damage in cells and has shown important results in the identification of substances with a potential risk to the human population as innumerable physical, chemical and biological agents. With this technique is possible to obtain images like a comet, in which the tail of these refers to damaged fragments of the DNA. One of the main problems is that the image has unequal luminosity caused by the fluorescence microscope and requires different processing to condition it as well as to know how many optimal comets there are per sample and finally to perform the measurements and determine the percentage of DNA damage. In this paper, we propose the design and implementation of software using Image Processing Toolbox-MATLAB that allows the automation of image processing. The software chooses the optimum comets and measuring the necessary parameters to detect the damage.

Keywords : artificial vision, comet assay, DNA damage, image processing

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