Abstract

DNA microarray image processing becomes a viable branch of bioinformatics, its importance stems from the fact that it allows viewing and measuring tens of thousands of genes concurrently. Many techniques were introduced to develop and improve the mission of processing DNA microarray images. The aim of this study is to make a segmentation of the cDNA microarray images. The Marker Controlled Watershed technique is used to segment the DNA microarray spots. The proposed method starts with preprocessing step; i.e. denoising and histogram equalization. Then, the spots are segmented from its background. The used images in this paper were obtained from Stanford Microarray Database (SMD). The obtained results of the developed method are compared to the results of K-means clustering method and fuzzy c-means clustering method. We can conclude that the Marker Controlled Watershed
technique is efficient for segmenting the cDNA microarray images.

References

Analysis and Machine Intelligence. 16(6), 641-647.

Index Terms

Computer Science
"Image Processing"

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"cDNA Microarray Images"  "Image Segmentation"  "Marker Controlled Watershed"