Abstract

This paper presents the application of ‘TissueQuant’ algorithm which is a unique approach to assess color shade similarities to quantify the extent of staining to arrive at a diagnosis. This is done by assigning scores to different shades of a particular color based on how close the shade is to a reference color. This approach is applied to the quantification of ck7 stain for diagnosis of sinovial sarcoma. The images were obtained from the tissue
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microarray database maintained by Stanford university (website: http://tma.stanford.edu/cgi-bin/cx?n=SSTMA18-new). This algorithm is based on HSI color model. With the color of interest taken as the centre of a Gaussian function, appropriate weightage is given to different shades of the specific color. Using this technique as the basis, the specific stain is quantified. This information is then used for diagnosis of sinovial sarcoma. This approach is very useful in handling tissue microarray images due to its high throughput. The results were compared with the diagnosis provided by the database and were found to be very much in agreement with it.

References

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Index Terms

Computer Science
Electronic Design And Signal Processing

Keywords
Tissuequant
Stain Quantification
Color Quantification