

Characterization of Breast Cancer Tissue from a Rat Model with and Without Cancer: The Use of Raman Spectroscopy

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Abstract

Micro-Raman spectroscopy was performed on normal and tumor breast tissue of rats. Our results have shown that the strength of the Raman spectra intensity can be useful to differentiate between normal and breast tumor tissues. Also, the Raman fingerprint of the biochemical markers of the tissue makes possible the automatic discrimination and classification between normal and abnormal tissue. For this evaluation, principal component analysis and the generalized linear discriminate analysis were used. From our results, we believe that rat model of breast cancer can be helpful to the understanding of the molecular changes of breast cancer and its early detection