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髓性白血病细胞HL60自发超微弱生物光子辐射研究

鲍超、刘华锋
浙江大学现代光学仪器国家重点实验室国际光子学实验室

采用光子计数成像采集系统(PIAS)对髓性白血病细胞HL60自发的超微弱生物光子辐射进行了初步研究,获得了HL60细胞的生物光子强度与培养时间及细胞密度的关系。研究表明,HL60细胞的生物光子强度反映了细胞繁殖规律性及新陈代谢状况。为进一步探索肿瘤细胞与抗癌药物作用的生物先子效应,我们把TNF-β(肿瘤坏死因子)对悬浮HL60细胞进行处理,发现比同性质无TNF-β药物的对照组有更强的超微弱光子辐射。

A STUDY OF ULTRA-WEAK BIOPHOTON EMISSION OF MYELOGENOUS LEUKEMIA CELL HL60

A preliminary study of ultra-weak biophoton emission of myelogenous Leukemia cell HL60 was made by using Photon-counting Imaging Acquisition System. The relationship between the intensity of biophoton, cultured time and cell density was acquired. The result shows that biophotonic intensity of HL60 cell reflect the basic regularity of cell breeding and metabolism. In order to explore the biophotonic effects from the interacting between the cancer cell and the anticarcinogenic drug, the suspension of HL60 cell was treated with TNF-β. A more intense biophoton emission than control group without TNF-β was observed.

关键词

超微弱生物光子辐射(Ultra-weak biophoton emission); 光子计数成像(Photon-counting Imaging); 采集系统(Acquisition System); 髓性白血病细胞HL60(Myelogenous leukemia cell HL60)