

### 阿达玛变换显微图象分析系统测定乳腺肿瘤细胞DNA含量

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摘要 本文以吖啶橙为细胞DNA荧光探针,

探讨了影响阿达玛显微图象分析仪定量分析细胞DNA时的细胞荧光强度以及影响人乳腺肿瘤细胞DNA定量分析结果准确性的几个因素,结果表明: (1)乙醇是理想的固定剂,醛类固定剂对细胞AO-DNA复合物的荧光有显著影响; (2)吖啶橙染色液中含Triton X-100时细胞荧光强芳明显增大; (3)吖啶橙的最佳荧光染色浓度为50µg/mL; (4)在分析乳腺肿瘤细胞DNA含量(倍性)时,采用外标法(以人血涂片或淋巴结细胞涂上的淋巴细胞为标准二倍体细胞)或内标法(以乳腺肿瘤细胞涂片上的正常上皮细胞为标准二倍体细胞)均能得到较好的结果,但后者更为可靠; (5)随机分析六十个以上肿瘤细胞,可得到较好分析结果。

关键词 [吖啶橙](#) [图象分析](#) [湖北省自然科学基金](#) [乳腺肿瘤](#) [细胞DNA](#) [阿达玛变化](#)

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### Determination of DNA content in breast tumor cell by hadamard transform microscopic image analysis system

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**Abstract** In this study by means of acridine orange (AO) staining cell and Hadamard transform microscopic image analysis system, some factors that affect fluorescence intensity of cellular AO-DNA complex and accuracy of analytical results of human breast tumor cell nuclear DNA content were investigated. The results show that: (1) ethanol is the best fixative for cell, and aldehydes have significant negative influence on cell fluorescence; (2) cells emit stronger fluorescence when AO contains Triton X-100; (3) the optimum concentration of AO is 50µg/mL; (4) when tumor cell nuclear DNA content is analyzed, satisfactory results can be obtained with either external control method (lymphocyte in blood smear or lymph node specimen smear is used as standard diploid cell) or internal control method (normal epithelial cell in the same tumor specimen is used as standard diploid cell), but the latter is preferable; (5) reliable results can be obtained when no less than sixty tumor cells are measured at random for each case.

**Key words** [ACRIDINE ORANGE](#) [IMAGE ANALYSIS](#) [MAMMARY NEOPLASMS](#)

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