

CAISMOV24, a new human ovarian carcinoma cell line.

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Resumo

In the present study, we report the establishment of a new human ovarian carcinoma cell line. *In vitro* culture was established with cells from ascites of a patient with recurrent ovarian cancer. CAISMOV24 cell line was characterized in regard to cell growth, production of CA125 and expression of cell surface molecules HLA-class I CD155 and CD326. This new ovarian cell line resembles its cognate type 2 serous carcinoma.

Keywords: serous ovarian carcinoma, cell culture, ascites.

Introdução

Epithelial ovarian cancer is the most lethal gynecologic cancer [1]. *In vitro* cultures of primary malignant cells and established cell lines have been widely employed as experimental models for the understanding of ovarian cancer biology [2]. However, some of the most commonly used cell lines no longer resemble their cognate tumor profile [3]. Thus, new well-characterized cell lines of ovarian neoplasia are needed, particularly the most common invasive histotype serous ovarian carcinoma.

Resultados e Discussão

The *in vitro* culture was established with cells isolated from ascites of a 60-year-old female patient with recurrent ovarian cancer (stage IIIC, well differentiated ovarian serous adenocarcinoma). Primary culture was mainly composed by epithelial cells, and a lower number of fibroblasts. However, the number of fibroblasts decreased until disappearance along the initial *in vitro* passages. CAISMOV24 cell line has a typical epithelioid morphology (Figure 1A) and, currently, it has been continuously cultured for more than 95 *in vitro* passages. After cell plating, the cell line requires 2-3 days to exhibit their fully proliferation capability, when their doubling population time was calculated to be 58h. Although the growth rate of the cell culture diminishes from the 7th day, the cells keep proliferating until taking completely the surface of the culture flask, reaching approximately 100,000 cells/cm² with 98% viability after two weeks (Figure 1B). CAISMOV24 remains producing CA125 *in vitro* (135,8U/ml) which is an important seric marker assessed for the diagnoses of adnexal masses in women. The expression of HLA-class I on CAISMOV24 cells was not down-regulated, as usually expected in malignant transformation. Additionally, EpCAM (CD326) and PVR (CD155) molecules were overexpressed on the CAISMOV24 cells compared to the original malignant cells from ascites. (Figure 2).

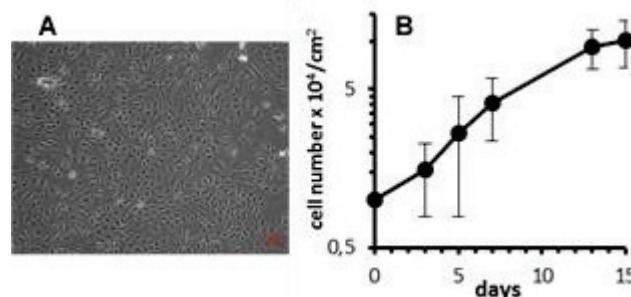


Figure 1. A. CAISMOV24 observed at phase contrast microscopy (100x). B. Quantification of the dividing capability of the cells.

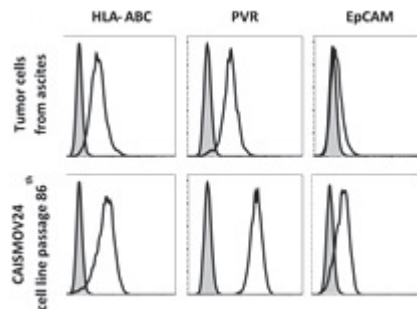


Figure 2. Expression of surface markers on malignant cells. Assessed by flow cytometry. colocar título.

Conclusões

In the present study, we characterized a new human epithelial ovarian cell line that resembles its cognate type 2 serous carcinoma.

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