

# COLON CANCER CELLS AND CANCER STEM CELLS: A GROWTH CURVES COMPARISON

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**INTRODUCTION:** Over the past few years there is increasing evidence that the principles of stem cell biology are not only relevant for haematological malignancies but also for solid tumours, like colon cancer. This concept includes the hypothesis that tumours consist of heterogeneous populations of cells. Only a small subset of rare tumour stem cells is capable of initiating and propagating tumour formation. These special cells are also thought to initiate tumour metastasis and relapse after therapy. A better characterization of tumour initiating cells could lead to improvement of cancer therapies. The purpose of this study is to form growth curves by using both colon cancer cells and colon cancer stem cells and compare them.

**MATERIALS AND METHODS:** Commercial colon cancer cell (HCT- 116) and colon cancer stem cell lines were used in this study. Cancer stem cells were isolated from patient's whole blood and were cultured in appropriate culture medium containing growth factors until they gave a sufficient number of cells . Next, all types of cells were cultured for a period of 10 days and the total cell number was daily measured.

**RESULTS:** After each growth curve analysis it seems that cancer stem cells' growth rate is different from that of cancer cells.

**CONCLUSIONS:** By forming a growth curve with cells isolated from patient's whole blood who suffers from colon cancer and comparing this growth curve with the existing, we could make a first assessment of the existence of stem cells in tumor blood sample . Then, and if only the existence of these cells is confirmed with other techniques, cancer stem cells can be targeted for study of new better therapies.

## SELECTED REFERENCES:

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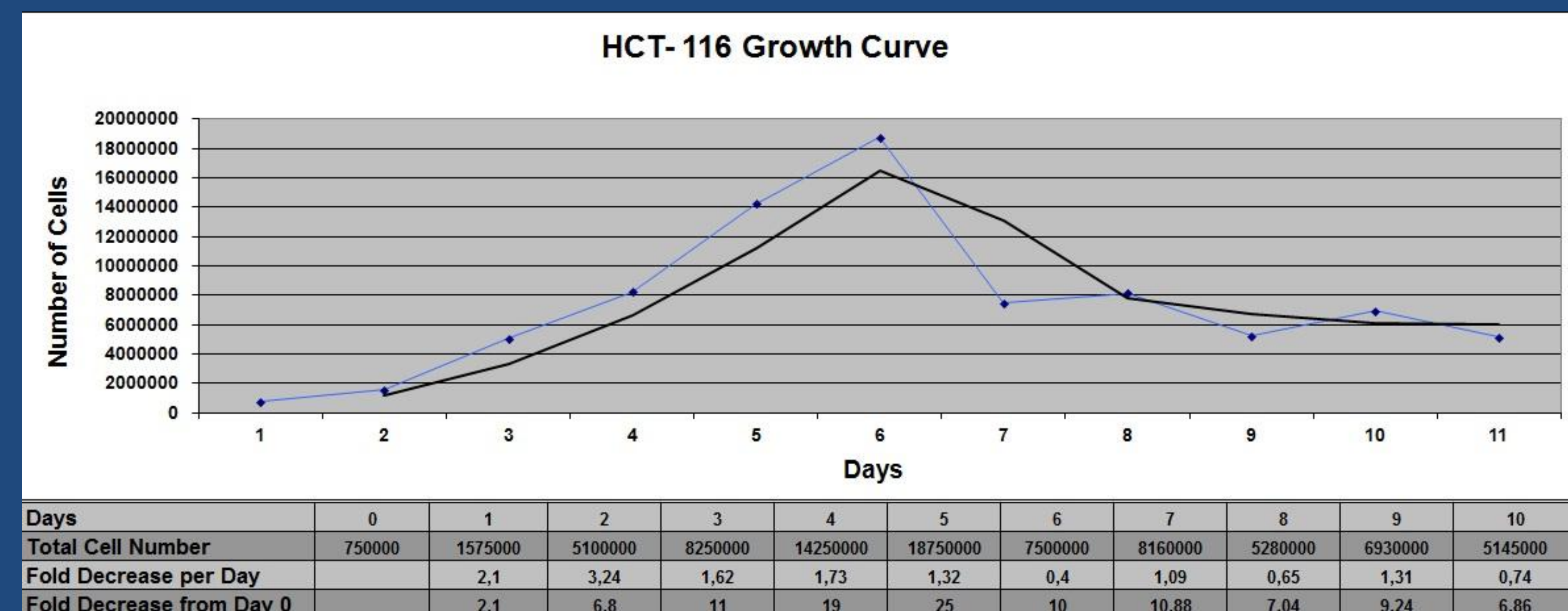


Figure 1: Commercial Colon Cancer Cells Growth Curve.

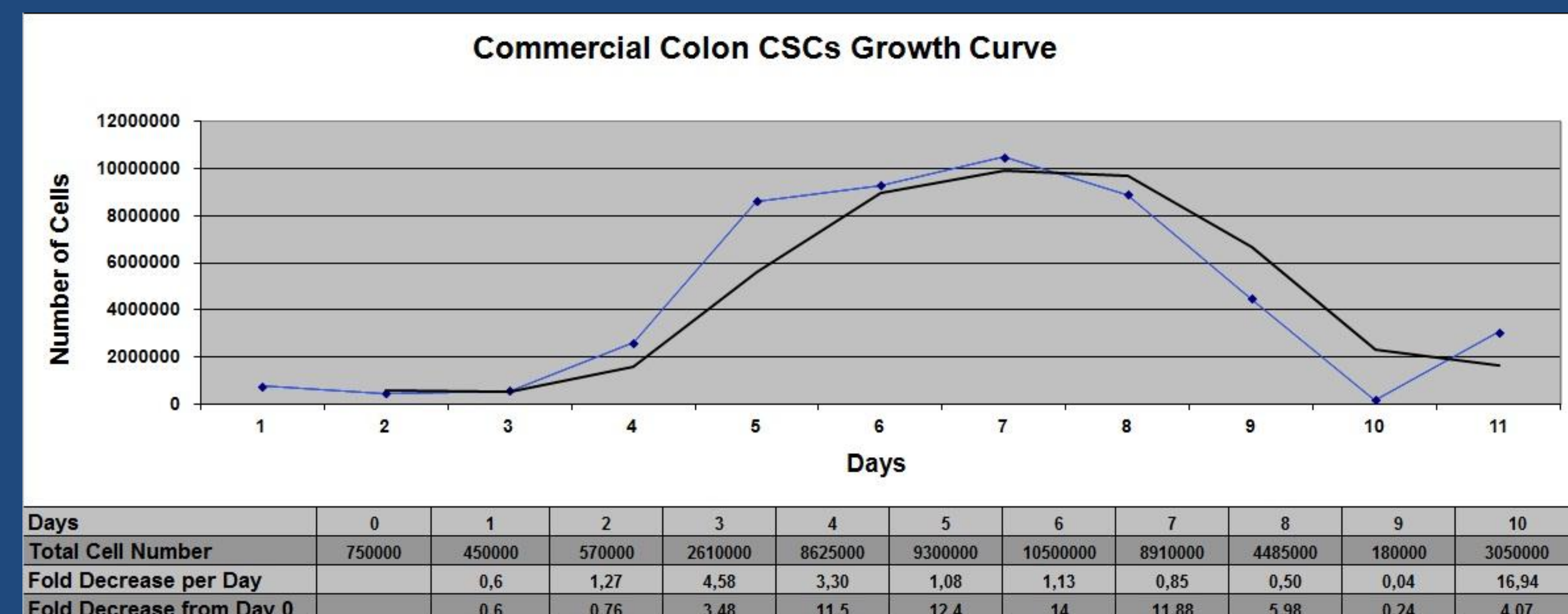


Figure 2: Commercial Colon Cancer Stem Cells Growth Curve.

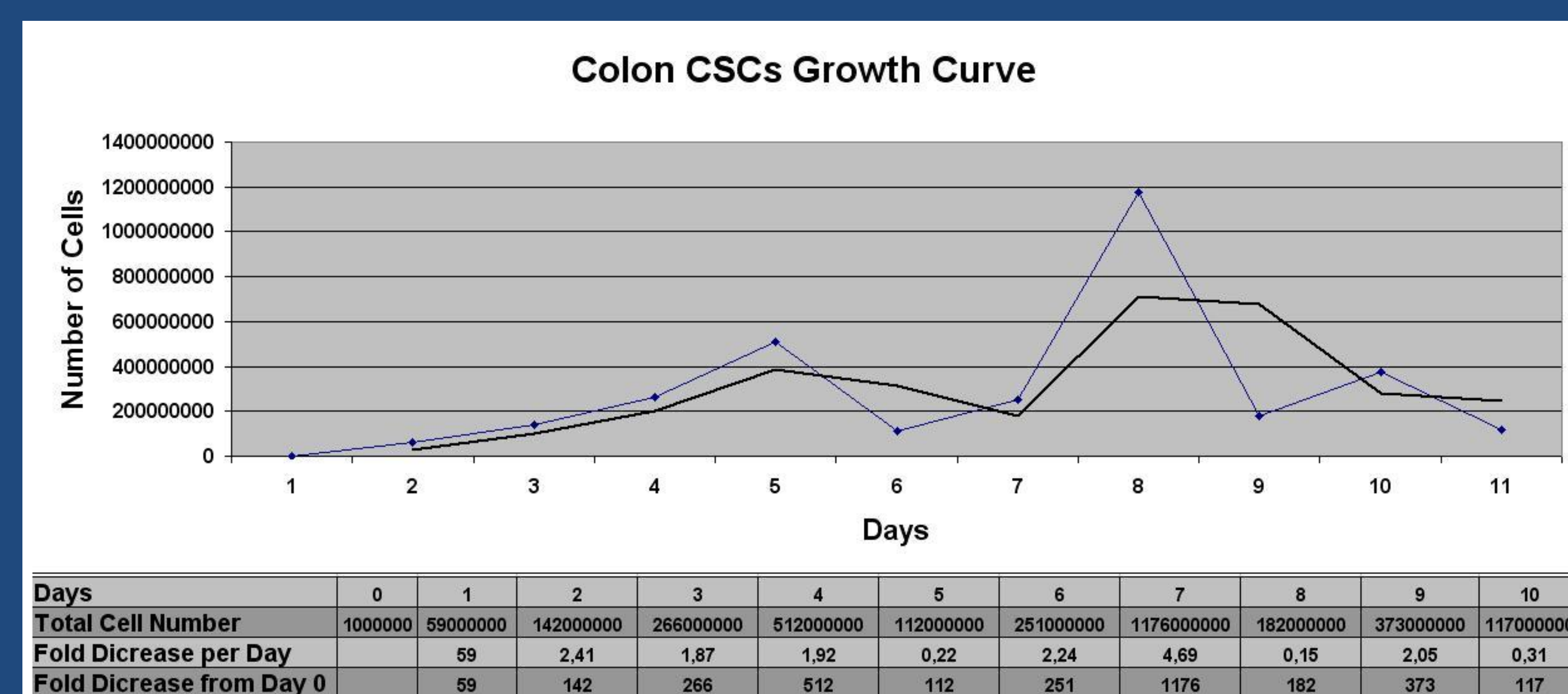


Figure 3: Patient's Cells Growth Curve.

