**Data Analysis Problem**

by Marianna Pap and József Szeberényi

to accompany

*The Cell: A Molecular Approach,* Eighth Edition

Geoffrey M. Cooper

**18.3 The Effect of Taxol on Fibroblasts**

This Data Analysis Problem does not appear in the textbook.

**Source:** Schiff, P. B., S. B. Horwitz. 1980. Taxol stabilizes microtubules in mouse fibroblast cells. *Proc. Nat. Acad, Sci.* 77: 1561–1565.

**Corresponding chapter(s) in the textbook:** Chapter 18

**Review the following terms before working on the problem:** HeLa cells, fluorescent DNA dye, flow cytometry

**Experiment**

HeLa cells (a human cervix carcinoma cell line) were cultured under optimal conditions and then left untreated (control) or treated with taxol for the time periods indicated in the graphs. The cells were stained with a fluorescent DNA dye and then subjected to flow cytometric analysis.

**Figure**



**Questions**

1. What can be concluded about the DNA content of cells indicated by arrows *a* and *b*?

2. What phase of the cell cycle do arrows *a* and *b* correspond to?

3. Describe the effect of taxol.

4. What is the effect and the most likely target of taxol?