

**BIOLOGY 163 LABORATORY**  
**LITERATURE CRITIQUE GLOSSARY**  
(Fall 2006)

The following brief glossary should help you in understanding unfamiliar terms and methods presented in the paper **Prodigiosin from the supernatant of *Serratia marcescens* induces apoptosis in haematopoietic cancer cell lines** (Montaner et. al., 2000)

**antineoplastic:** Inhibiting or preventing the proliferation of tumor cells.

**apoptosis:** a.k.a. "Programmed cell death." A form of cell death in which cells actively participate in their own destruction. Characteristic cellular changes of apoptosis include nuclear condensation, DNA fragmentation, and phosphatidylserine externalization

**astrocytoma xenograft:** A type of cancerous brain tumor transplanted to another species such as a rat or mouse.

**Bradford method:** A method for estimating protein content by measuring the change in absorbance of Coomassie blue dye when it binds to proteins.

**caspases:** proteases activated in apoptotic cells. Part of the cellular machinery involved in the execution of apoptosis.

**CDK-2 (and CDK-4):** Members of a large family of enzymes that initiate transitions in the cell cycle of eukaryotic cells. Mutations in the CDKs or their inhibitors are associated with several forms of cancer

**haemopoietic:** Referring to an agent or process involved in the formation of blood cells.

**Hoechst staining:** A technique for staining and viewing nuclear DNA using fluorescence microscopy.

**IC50:** The concentration of a substance required for 50% inhibition.

**lyophilized:** freeze-dried

**membrane blebs:** Multiple swellings of the plasma membrane common in apoptotic cells. (They appear to be involved in immune system recognition of dead cells requiring "clean up.")

**MTT assay:** Used to quantify cell viability. Metabolically active cells will convert the yellow salt MTT into purple formazan. An increase in the number of living cells results in an increase of total metabolic activity, thereby resulting in a stronger purple color formation.

**neoplasia:** tumor formation

**p53 gene:** A tumor suppressor gene. Mutations result in a predisposition for cancer.

**phosphatidylserene:** A molecule found on the inner surface of the membrane of live cells. Phosphatidylserene is externalized in apoptotic cells. (It appears to be involved in immune system recognition of dead cells requiring "clean up.")

**prodigiosin:** A red pigment produced by *S. marcescans*. Several mutants of *S. marcescans* exist in which the prodigiosin production pathway is blocked.

**Rb gene:** A tumor suppressor gene. Mutations result in a predisposition for cancer.