**Course: Advance Bio Informatics**

**Module Title: Cell Cycle Phase Markers**

**Module No: 152**

**Cell Cycle Monitoring Techniques**

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| **Technique** | **Instrument used** | **Purpose** |
| Cell biomass | Plate reader | Total cell count for determining cell growth |
| Cell cycle phase markers | Flow cytometry  Microscopy | Study of cell cycle;  Cell cycle analysis |
| Thymidine incorporation | Scintillation counter,  Autoradiography | Cell proliferation measurement in animal tissues |
| DNA staining | Flow cytometry | Cell division assays in vivo |
| Bromo-deoxyuridine incorporation | Flow cytometry,  Immunostaining | Cell cycle analysis in normal and cancer cell |

**CCPM in Drug Discovery Process**

* Screening of drug molecules.
* Screening of candidate drugs.
* Testing the activity of a drug.
* Investigating other cellular processes.
* Study the cell cycle in normal and abnormal development of transgenic animals by using CCPMs tool.
* Use mutant mouse model to study degenerative diseases in vivo.
* Green fluorescent proteins can be useful to study any cellular event in response to chemotherapy and radiotherapy.