

## 3.1: Introduction to Genetic-toxicology Assay

### Learning Objectives

- Know about the definition of genetic toxicology assay.

### 1.1. What is Genetic-Toxicology Assay?

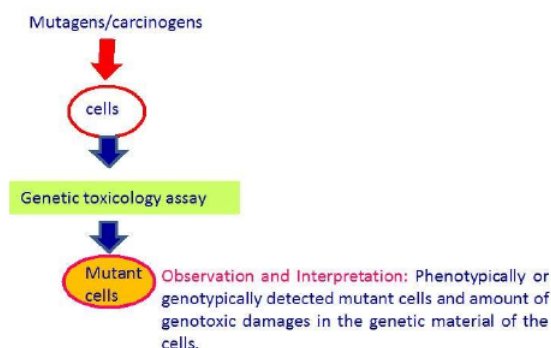


Figure 3.1.1: Diagrammatic steps in genetic toxicology assay.

The genetic-toxicology methodology or assay technique helps to test or evaluate the level of damage to the genetic information caused by toxicants or agents within the cells (Figure 1). Damages resulted as induced **mutations**, which may lead to different diseases including cancer. The causative toxic agents are known as **mutagens**. Mutagens caused for cancer disease, is known as **carcinogens**.

#### Topic 1: Key Points

In this section, we explored the following main points:

- 1: Definition of genetic toxicology methodology
- 2: Causative toxic agents as mutagens.
- 3: Genotoxic damages result in the phenotypically or genotypically mutant cells.

### Knowledge Check

Genetic-toxicology methodology or assay technique helps to test...

- the level of damages caused by toxicants within the cells.
- the level of reactive oxygen species (ROS) within the cells.
- the stages of cancer disease.

#### Answer

the level of damages caused by toxicants within the cells.

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