

In Vivo Teratoma Assay for Assessing Pluripotency of Induced Pluripotent Stem Cells (iPSCs)

Methods:

Cell Culture: iPSCs are cultured in appropriate medium to maintain their undifferentiated state.

Cell Preparation: iPSCs are harvested and prepared into a suitable cell suspension for injection.

Animal Selection: Ethical considerations are adhered to when selecting experimental animals, ensuring compliance with ethical and legal regulations.

Subcutaneous Injection: iPSCs are subcutaneously injected into designated regions of the animals.

Observation and Monitoring: After a designated period (typically several weeks to months), the injection sites are monitored for tumor formation.

Tissue Sampling: Once tumors form, the tumor tissues are collected for histological analysis.

Histological Analysis: Tumor tissues are sectioned, stained, and examined under a microscope to assess the presence of tissues derived from different germ layers.

Data Analysis: Based on the histological analysis, the presence of tissues from various germ layers is evaluated to ascertain the pluripotency of the iPSCs.