

Nude mice

“Nude [mice](#)” refers to a specific strain of laboratory mice that are characterized by a genetic condition called nude or athymic. These mice lack a thymus, an organ critical for the development of T lymphocytes, a type of white blood cell involved in the immune response. As a result, nude mice have severely compromised immune systems, making them particularly useful in various types of biomedical research, especially in cancer and transplantation studies.

The absence of a functional thymus in nude mice leads to a deficiency in T cells, which are essential for immune responses against foreign substances, including transplanted tissues or tumor cells. This immune deficiency allows researchers to graft human tissues, cells, or tumors into nude mice without eliciting a strong rejection response.

In cancer research, nude mice are frequently used for xenograft experiments. For example, human cancer cells can be injected into nude mice to study tumor growth, metastasis, and the effects of potential anti-cancer therapies. The compromised immune system of nude mice allows human cells to thrive and form tumors without the interference of a robust immune response.

The use of nude mice has significantly contributed to our understanding of cancer biology and the development of potential cancer treatments. It is important to note that while nude mice are valuable tools in research, their immune deficiency means that findings from studies involving them should be interpreted with consideration of the limitations related to the absence of a fully functional immune system.

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