

The micronucleus test: method and its application in detecting chromosomal aberrations in human cells in culture as well as diagnosis of patients with chromosome breakage diseases

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Abstrak

The name chromosome was given by Waldeyer (in about 1888). This name is appropriate in view of the intense affinity of this structure for nucleophilic dyes (Chroma = color; soma a body). Fifteen years earlier the now called chromosome had been described in dividing cells by Schneider to thread-like structures in these cells. In 1884 Nageli had introduced a special hereditary material, which he called "idioplasm", which according to other investigators was identical to the chromatin of the nucleus.

Cytogenetics is one of the most rapidly developing field of modern biology, despite its very slow beginning. It is recognized as being basic to the understanding of many aspects of the broad science of heredity. For a good appreciation of recent studies on human cytogenetics, some knowledge of the history of human cytogenetics, which developed hand in hand with the technical development of studying chromosomes, seems to be necessary. Investigations on cytogenetics could be said to have started with the work of Arnold (1879) and Flemming (1882), who examined mitotic process for the first time. Arnold observed the genetic material in tumor cells. Flemming studied various cell division stages in the plant *Lilium croceum*, and in embryos of salamander (1882), who then introduced the term "chromatin" by which he meant the nuclear substance stainable with nuclear dyes.