STEMart Announces Enhanced In Vivo Rat Micronucleus Test Services to Accelerate Medical Device Biocompatibility Testing

STEMart announces the expansion of its genetic toxicology capabilities with the In Vivo Rat Micronucleus Test services.

NEW YORK, NY, UNITED STATES, January 26, 2026 /EINPresswire.com/ -- STEMart, a US-based provider of comprehensive services for all phases of medical device development, has announced the expansion of its genetic toxicology capabilities with the In Vivo Rat Micronucleus Test services. This critical assay can help manufacturers identify potential genotoxic risks, ensuring the highest level of patient safety and regulatory compliance for new medical products.

It is well-established that virtually all agents that cause double-strand breaks in chromosomes also induce micronuclei. As micronucleus counting is faster and less technically demanding than chromosome aberration counting and micronuclei originate from two significant types of genetic damage (clastogenesis and spindle disruption), the micronucleus test is widely used to screen chemicals that induce such damage.

In vivo rodent micronucleus assays have been extensively used for genotoxicity detection. Within genotoxicity testing regimens, micronucleus induction assessment is the primary in vivo test recommended by global regulatory authorities for inclusion in product safety evaluation systems. When conducted properly, this assay can detect both clastogenicity and aneugenicity.

According to OECD Test Guideline 474, the in vivo rat micronucleus test detects the presence of micronuclei in erythrocytes with retained chromosomal fragments or intact chromosomes. STEMart now offers this test to detect potential cytogenetic damage to erythroblast chromosomes or the mitotic apparatus caused by medical devices. This service can be conducted under GLP (good laboratory practice) or non-GLP conditions, depending on the client's product development stage.

STEMart's In Vivo Rat Micronucleus Test provides clients with a thorough analysis of bone marrow or peripheral blood samples to detect chromosomal damage in young, healthy rats. The team uses advanced scoring techniques that enable automated counting via image analysis and flow cytometry of cell suspensions. These techniques ensure the data is objective and statistically significant, compliant with ISO 10993-3 and OECD 474 standards, and supports

global regulatory submissions. STEMart also provides expert-level reporting with comprehensive final reports containing methodological details, raw data, and specialized interpretations of the test substance's mutagenic potential.

"Ensuring that medical devices do not cause genetic damage is a critical, non-negotiable step in the product launch process." A senior consultant at STEMart stated. "By providing reliable in vivo rat micronucleus assays, we deliver robust, high-precision genotoxicological data to our partners, meeting global regulatory submission requirements, including those for US FDA approval and EU CE certification."

In addition to the in vivo rat micronucleus test, STEMart offers a comprehensive range of biocompatibility, microbiology, and sterility testing services. These complete solutions for medical device testing enable manufacturers to optimize their R&D cycles, reduce costs, and ensure that their products meet the most stringent safety standards prior to clinical deployment.

For more information about STEMart's In Vivo Rat Micronucleus Test and other medical device testing solutions, please visit https://www.ste-mart.com/in-vivo-rat-micronucleus-test.htm.

About STEMart

STEMart is an industry-leading eCommerce platform incorporated with an extensive global footprint and a broad portfolio of more than 10,000 products. It aims to provide better lab materials, medical instruments and consumables, excellent technologies, and high-quality services to global customers in the fields of science, technology, and engineering, from the discovery stage upward to the manufacturing process. STEMart is dedicated to enhancing research and biotech production with simpler and safer protocols to access better health worldwide.

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