Defects in the Regulation of Genome Duplication can Lead to Cancer

Susan Gerbi
George Eggleston Professor of Biochemistry

CURRENT RESEARCH

Novel models for cancer diagnosis, therapy, and prevention

Cancer is a disease of runaway cell division. Duplication of DNA, the hereditary material, must occur before cell division ensues. Therefore, understanding what regulates the initiation of DNA synthesis will uncover the checkpoint that regulates the onset of cell division. DNA carries the blueprint of life. It is crucial that it be duplicated perfectly to pass exact copies to the daughter cells. Dr. Susan Gerbi, the George Eggleston Professor at Brown University, seeks to understand origins of DNA replication where DNA synthesis begins. Identification of the many replication origins in the genome will elucidate the molecular mechanisms regulating the initiation of DNA synthesis and the coordination of cell growth and cell division. Dr. Gerbi and her team are working to translate their findings into new modes of cancer diagnosis, therapy, and prevention. Her studies to get at the heart of the matter by understanding molecular mechanisms fuel her passion to translate these basic findings into improvement of human health.

Dr. Gerbi uses many models, ranging from yeast, flies, frogs, and cultured human cells, selecting the organism whose biology is best suited to address the question at hand to elucidate fundamental mechanisms. Blending postdoctoral research associates, graduate students, a research assistant, and talented undergraduates engaged in their senior honor's thesis research projects, Dr. Gerbi's lab is promoting future generations of biologists with rigorous and meaningful work using cutting edge methods of molecular and cell biology and genomics. While different projects within the lab are advancing towards novel insight each day, of exceptional importance to Dr. Gerbi is the translation of her basic...

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AFFILIATION

Brown University

EDUCATION

- B.A. (honors) in Zoology, 1965,Barnard College
- M.Phil., Biology, 1968,Yale University
- Ph.D., in Biology, 1970,Yale University

AWARDS

- Fellow of AAAS, 2008-current
- Recipient of Rhode Island Governor's Award for Scientific Achievement, 1993
- American Society for Cell Biology

RESEARCH AREAS

Health & Wellness, Longevity, Immortality Research

FUNDING REQUEST

Your contributions support the continued research of Dr. Gerbi, as she elucidates fundamental molecular mechanisms in order to develop new modes of cancer diagnosis, therapy, and prevention. $600K funds personnel and supply costs in her lab. Her research program has passed stringent peer review and is partially funded by NIH and the NSF grants. Donations of any amount are welcome and will play a role in uncovering the ways cancer develops, allowing for novel future identification and treatment of cancers.

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