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NEW ADVANCES IN GENETICS RESEARCH

Sudha Bansode

Shankarrao Mohite College, India

Genes are understandably crucial to physiology, morphology and biochemistry, but the idea of genes contributing to individual differences in behaviour once seemed outrageous. Nevertheless, some scientists have aspired to understand the relationship between genes and behaviour, and their research has become increasingly informative and productive over the past several decades. At the forefront of behavioural genetics research is the *Drosophila melanogaster*, which has provided us with important insights into the molecular, cellular and evolutionary bases of behavior. By employing this development in their experiments with laboratory fruit flies, Gantz and Bier demonstrated that by arranging the standard components of this anti-viral defense system in a novel configuration, a mutation generated on one copy of a chromosome in fruit flies spreads automatically to the other chromosome. The end result, Bier says, is that both copies of a gene could be inactivated "in a single shot." The two biologists call their new genetic method the "mutagenic chain reaction," or MCR. "MCR is remarkably active in all cells of the body with one result being that such mutations are transmitted to offspring via the germline with 95 percent efficiency. Thus, nearly all gametes of an MCR individual carry the mutation in contrast to a typical mutant carrier in which only half of the reproductive cells are mutant." Bier says "there are several profound consequences of MCR. First, the ability to mutate both copies of a gene in a single generation should greatly accelerate genetic research in diverse species. For example, to generate mutations in two genes at once in an organism is typically time consuming, because it requires two generations, and involved, because it requires genetic testing to identify rare progeny carrying both mutations. Now, one should simply be able to cross individuals harboring two different MCR mutants to each other and all their direct progeny should be mutant for both genes".

Biography

Sudha Bansode is an Associate Professor in Zoology at Shankarrao Mohite College, Akluj, Maharashtra State , India. Recently she has completed her Post Doctoral Studies at University of California, Riverside, USA. She is a active researcher & passionate teacher in India. Still she has been published above 25 research papers in International Journals & she is interested on Bone Research. Also she has honor of Distinguished Editorial Board Member of several International Journals. She is a own author of "Textbook Histological Techniques" & "Outlines of Physiology". And now she is working on another own reference book "Rhythms in Freshwater Crustaceans". She is a University recognized research guide for Ph.D. students in India. She was a invited Indian speaker of "OXFORD SYMPOSIUM" on 27-29 August, 2014 at Balliol College, Oxford, United Kingdom & CELL SIGNALING & CANCER THERAPY – International Conference at Double Tree, Hilton Chicago on 27-28 September 2017. She was academic visitor of Bangkok- Thailand, Colombo-Sri Lanka, Daira-Dubai-UAE. Her recent intellectual interaction is with many International professional groups.

drsudhabanasode@yahoo.com