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### Mobile elements: DNA and RNA in human diseases

In 1972 PNAS (USA) article Palchaudhuri et al., have physically isolated Dr Lederberg's fertility factor (F plasmid) with genesis of transposon Tn 1000 (gamma delta) from E.coli K-12. Tn1000 plays a direct role to convert this fertility factor (F plasmid) to antibiotic resistance plasmid R but still stringently controlled. In 1973, a Stanford University Dr SN Cohen has inspired a laboratory technician (Annie Chang) to clone such R plasmid but in the laboratory they made multicopy vector pBR322. Its replication has already been relaxed and evidently contaminated our global environment by the unrestricted use of recombinant DNA technology. Even in his 2013 PNAS article, neither Dr. Professor Cohen has mentioned anything mobile DNA elements or his reviewers. Miracle happens but the subject raises a great concern because increasing rate of cancer is consuming our lives and continuity. What is worse? *In vitro*, gene cloning experiments in Gram-negative E.coli K-12 has been stated as planted biological bomb by a junior medical faculty at Stanford University (USA). This is worse than nuclear bombs used during world war II. In 2018 and 2019, In this article we compared transposon with retroviruses (DNA or RNA) and single stranded DNA and RNA bacteriophages. Nobel Prize winner Professor Arthur Kornberg used bacteriophage  $\lambda$  of length 48.5 Kb, a single stranded circular DNA with cohesive ends (cos) of length with 16 bp terminal repeats. Significantly enough, this phage prevails in a latent state in its host E.coli K-12 chromosome (4736Kb) with a protein repressor, but wakes up from its latent state by the inactivation of a repressor protein when exposed to UV-irradiation or antibiotic mitomycinC. The mobile DNA transposon Tn1000 affects replicons (F plasmid, prokaryotic and eukaryotic chromosomes at the initial stage of replication. The Tn1000/incF1C changes F replicon (s) into RTF component of antibiotic resistance plasmids R100, R1 or R6 by deletion mutations and rearrangement of bacterial loci. Mobile DNA elements appear to be involved in several severe diseases by being in serious pathogens! In 1983 Nobel Prize winner Professor B. McClintock's for her discovery of mobile genetic element in *Zea mays*, late but never.

### Biography

Sunil Palchaudhuri is currently working as a Professor in Immunology and Microbiology at the WSU School of Medicine, USA for 36 years after his Post-doctoral training In Canada and NIH Post-doctoral fellowship at NYU School of Medicine. He was awarded the New York State Irma T Hirschl Career Scientist Award in 1975-1980. He is also Reviewer in USA NIH Committees. J. Bact. Editorial board. Published extensively in international journals of repute.

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