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Advanced Clinical Approaches to Human Cancer Cells' DNA

Alireza Heidari[1,2,3,4,*]

[1] Faculty of Chemistry, California South University, 14731 Comet St. Irvine, CA 92604, USA.

[2] BioSpectroscopy Core Research Laboratory, California South University, 14731 Comet St. Irvine, CA 92604, USA.

[3] Cancer Research Institute (CRI), California South University, 14731 Comet St. Irvine, CA 92604, USA.

[4] American International Standards Institute, Irvine, CA 3800, USA.

Editorial

***Corresponding author**

Alireza Heidari,
Faculty of Chemistry, California South University, 14731 Comet St. Irvine, CA 92604, USA.
Email: Scholar.researcher.scientist@gmail.com; Alireza.Heidari@calsu.us; Central@aisi-usa.org.

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Editorial

The possibility that (not going in a straight line)-excitations (solitons) exist in biopolymers and play a central role in energy-move (from one place to another) was first advanced by Davydov in his classic-series of papers. In addition, a different class of solitons that give rise to localized conformational-changes in DNA structure was subsequently proposed by Englander et al., and later by Krumhansl and Alexander, to explain DNA-breathing phenomena. A large number of papers have since appeared that describe how the presence of nonlinear-excitations determine the early melting-behavior of DNA, notably within promoter-regions. Solitons are intrinsic, locally-coherent excitations, that move along a polymer chain with a speed much less than the speed of sound (they can even be unmoving). They are combinations of intramolecular and deformational excitations, which appear as a consequence of an intrinsic nonlinear-instability in the polymer structure [1 - 30].

Keywords: Nonlinear-Excitations Exist; Solitons, Cancer Cells; Energy-Transfer.

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