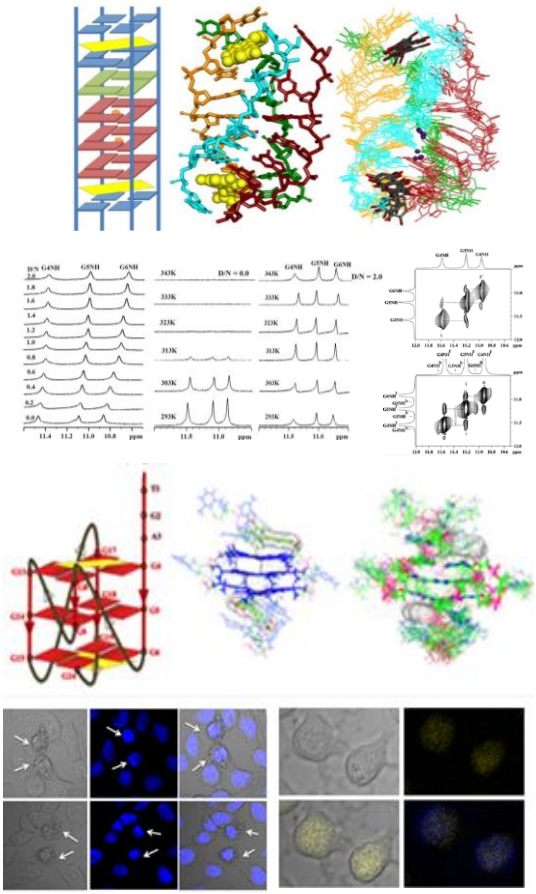
Title: Structural Insight into the interaction of Flavonoids with secondary structures of DNA



Unpublished Data

The interaction of the Flavonoids with human telomeric DNA sequence and promoter region of human oncogene that readily forms secondary structure was assessed by employing detailed biophysical techniques like CD spectroscopy, UV-Vis and steady state and time resolved fluorescence studies. The structural basis of the interaction was deduced by employing NMR spectroscopy that revealed that flavonoids bind to DNA and stabilize its structure. We have reported the first solution structure of this complex and deduced the mechanism for anticancer activity of flavonoids. It inhibits the cell growth by inducing apoptosis and it also down-regulates the gene expression in cancer cells upon binding. Our study highlights the potential of flavonoids as useful candidates for anti-cancer therapeutics by regulating DNA secondary structures.

[1]Tawani, A. & Kumar, A. Structural Insight into the interaction of Flavonoids with Human Telomeric Sequence. *Sci. Rep.* **5**, 17574 (2015).