डॉ. गीतांजलि सचदेवा
पी एच डी, एफ एन एस सी
निदेशक
आई सी एम आर - राष्ट्रीय प्रजनन स्वास्थ्य अनुसंधान संस्थान
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Dr. Geetanjali Sachdeva
PhD, FNASc
Director
ICMR - National Institute for Research in Reproductive Health
Department of Health Research, Ministry of Health and Family Welfare, Government of India

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Brief summary on the Research Work of the Applicant

The research work by Aniket highlights the importance of programmed organization of paternal genome in fertility and embryogenesis. It suggests that, not only nucleotide sequence but the 3-Dimensional organization of paternal DNA impacts ability of sperm to fertilize and support growth of early embryo. The study, for the first time, revealed genome-wide localization of Testis specific Histone 2B (TH2B) protein in sperm of fertile men and the link between sperm chromatin compaction and its transcriptome. Briefly, ChIP-seq analysis in sperm of fertile men revealed a putative role of TH2B in sperm function and embryo development. Altered expression of TH2B- associated genes in infertile individuals with sperm chromatin compaction defects indicated involvement of TH2B in transcriptional regulation of these genes in post-meiotic male germ cells. Additionally, sperm chromatin compaction positively correlated with sperm-motility, concentration, viability and with transcript levels of PRKAG2 and CATSPER B. The work has been published in Clinical Epigenetic journal (DOI: 10.1186/s13148-021-01088-4).

Dr. Geetanjali Sachdeva
Director