Retrotransposon DNA zip code for myeloma cell internalization

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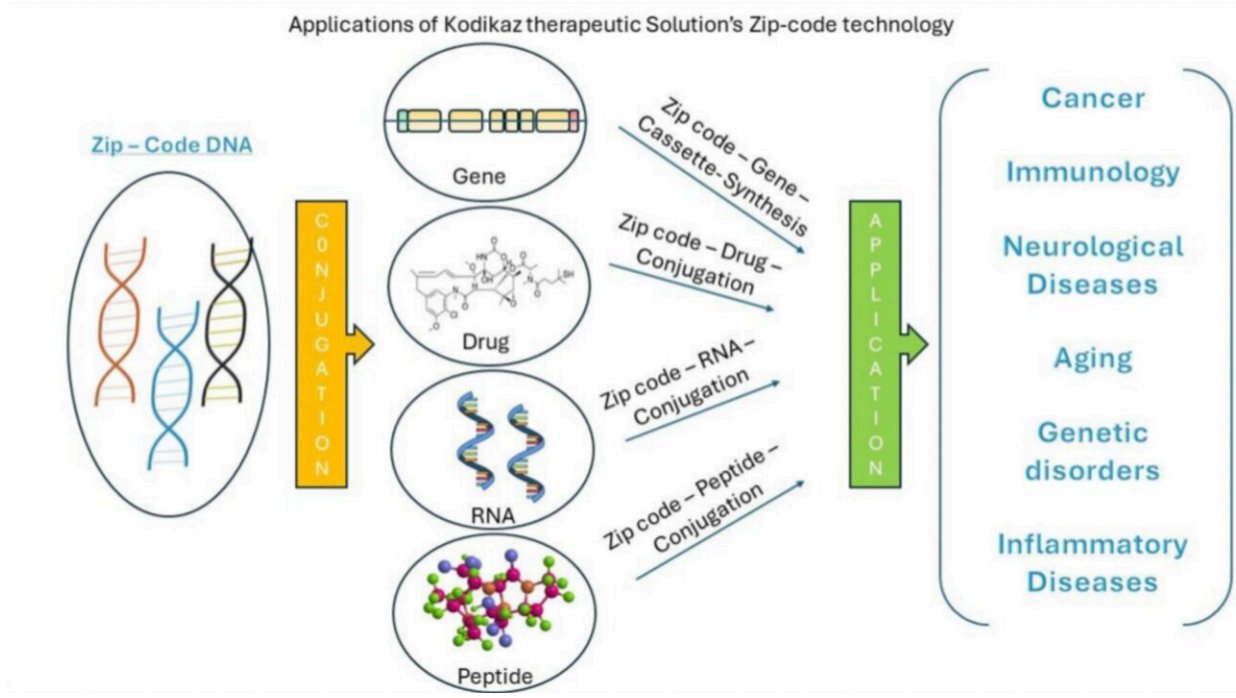

Diagrammatic representation of kodikaz therapeutic solutions' zip-code technology application to various human diseases. Credit: 2024 Puvvula et al.

The complex interplay between extracellular genetic material and the tumor's genetic landscape presents a significant challenge in grasping cancer evolution, tumor genetic heterogeneity, and treatment response. Earlier research has revealed the role of circulating tumor DNA (ctDNA) in mediating the gene expression among cancer cells, offering

new insights into a previously under-explored aspect of genetic exchange in human malignancies.

In this editorial, researchers Pavan Kumar Puvvula, Anthony Johnson, and Leon Bernal-Mizrachi from Kodikaz Therapeutic Solutions, Inc. and Winship Cancer Institute of Emory University delve into the findings of several studies that elucidate the mechanisms underlying ctDNA-driven gene transfer (GT) and its potential implications for cancer biology and therapy.

The editorial was published in *Oncoscience* on July 13, 2024, entitled, "Unveiling retrotransposon-derived DNA zip code for myeloma cell internalization."

"GT is a fascinating evolutionary phenomenon observed in lower species and humans, albeit with differing impacts and mechanisms," said the researchers.

This research highlights the importance of retrotransposon-derived DNA zip codes in myeloma cell biology and their interactions with the tumor microenvironment.

"Collaboration between academia, industry, and regulatory agencies will be essential for translating zip-code technology from the bench to the bedside and realizing its full potential in improving patient outcomes and advancing human health," they added.

More information: Pavan Kumar Puvvula et al, Unveiling retrotransposon-derived DNA zip code for myeloma cell internalization, *Oncoscience* (2024). DOI: 10.18632/oncoscience.606