CAV-C-Based Nanoparticles to Abolish Tumor Cell Migration and Prevent Metastasis in HCC

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1. BACKGROUND & OBJECTIVE

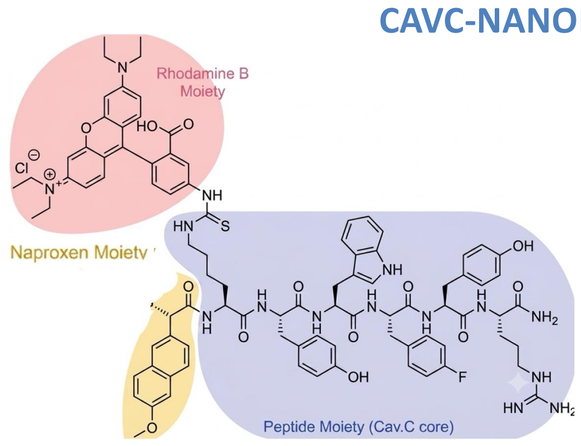
- HCC mortality is primarily driven by metastasis, not primary tumor burden
- Cell migration is a druggable but underexplored
- Caveolae-associated (CAV) pathways regulate cytoskeleton and motility

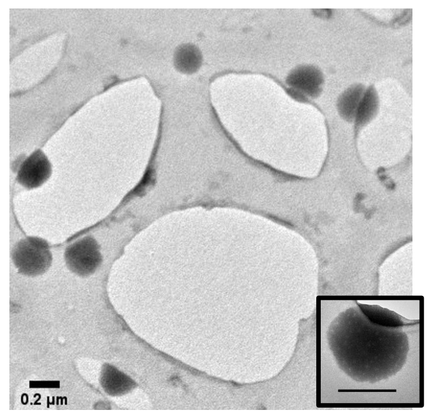
Targeting the CXCR4–CXCL12 axis represents a promising therapeutic strategy in HCC

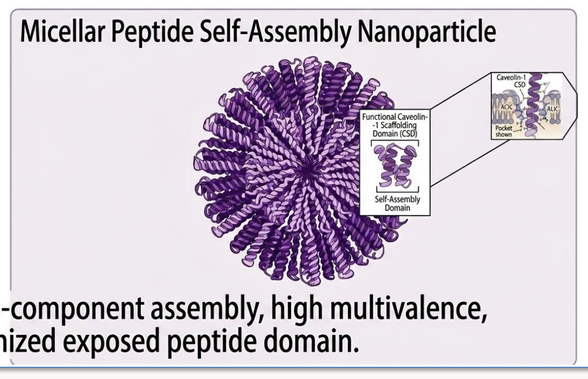
Objective: Engineer CAV-based nanoparticles (CAV-NPs) to disrupt migration and prevent metastasis.

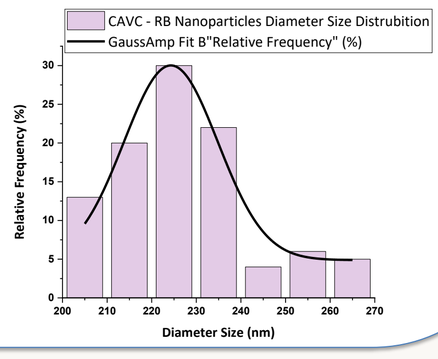
2. DESIGN

CAVC-NANOPATICLES



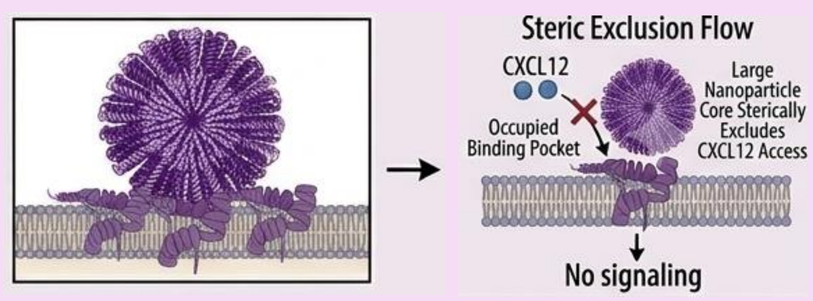




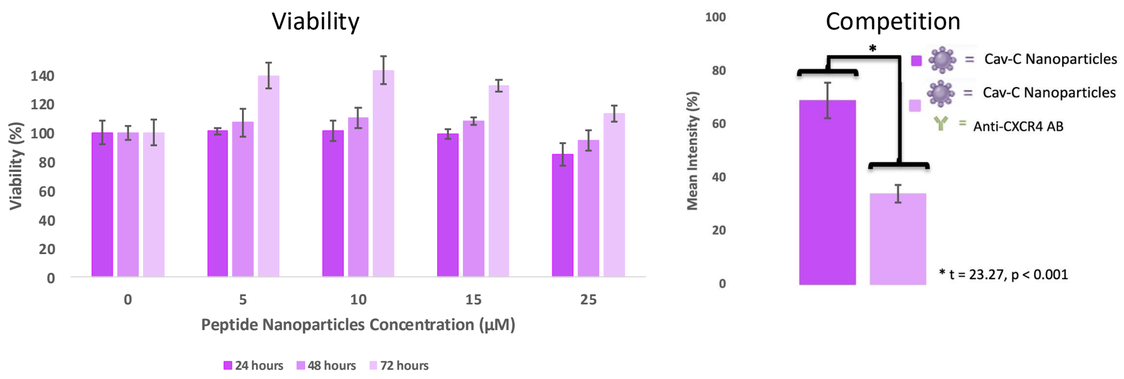


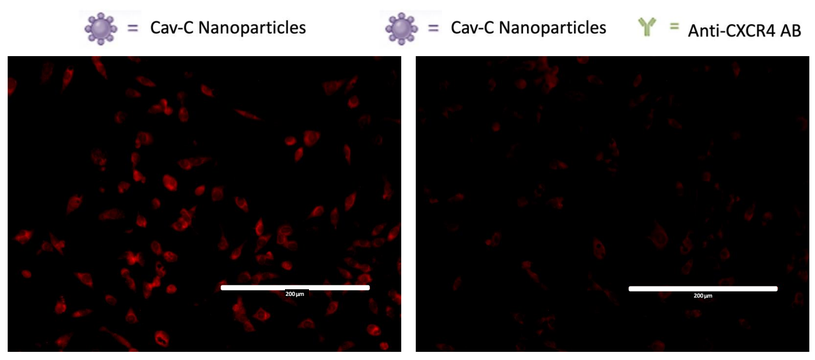
3. APPROACH

Multivalent CXCR4 Occupancy



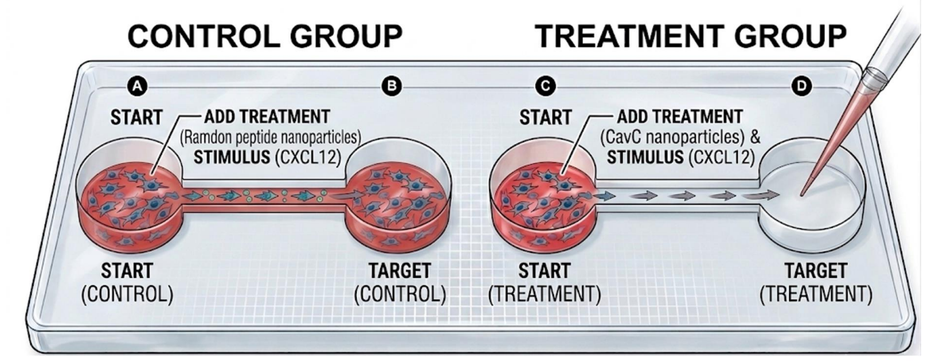
4.a Viability & Competition Assays, HepG2

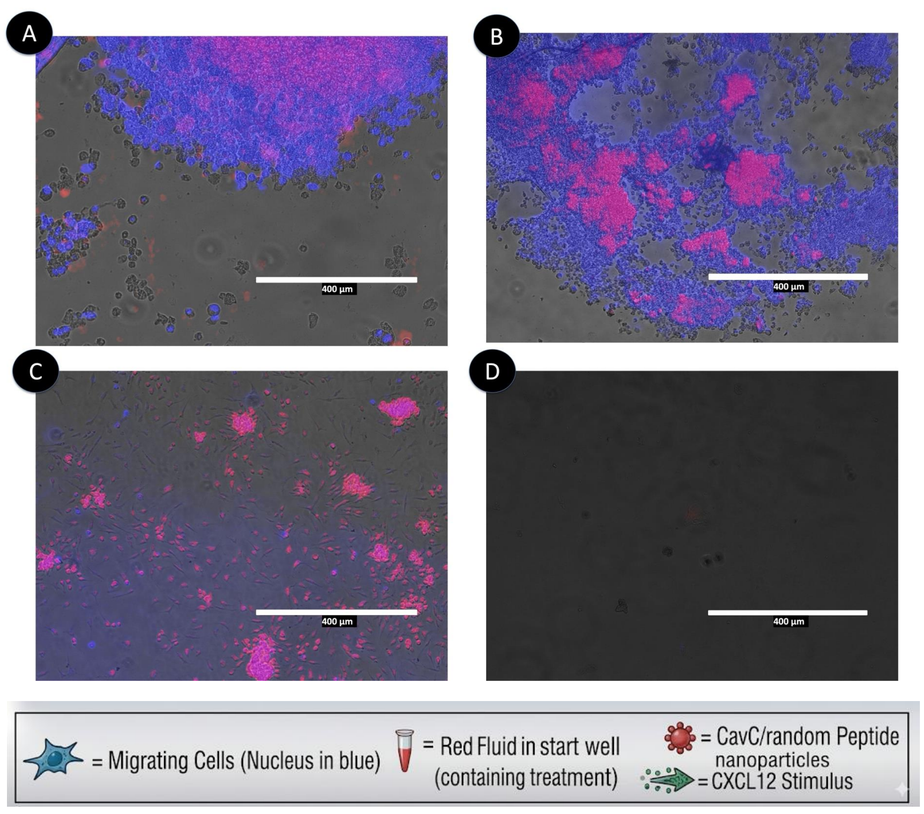




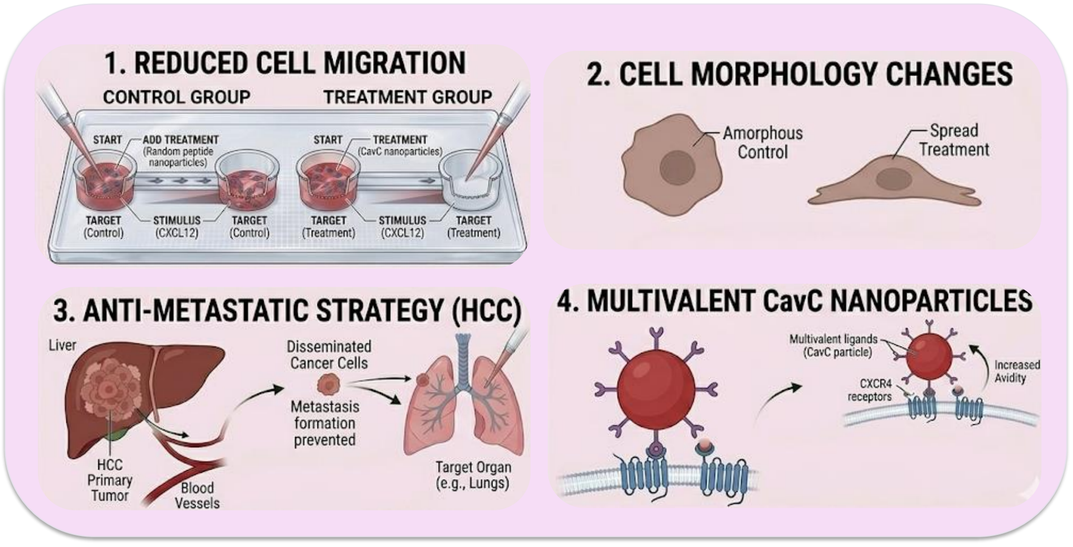
4. RESULTS

4.b In vitro Migration Assays (after 14 days, in HepG2 cells)





5. CONCLUSIONS



6. NEXT STEPS, EXTRA DATA

7. ACKNOWLEDGMENTS

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S2022/BMD-7403 RENIM-CM, (NANOAGING-CM)