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| 1. **Nanoparticle Drug/Gene Delivery System**   **Designing and evaluating Liposomal formulations**  -Poorly water-soluble drugs encapsulation  - Remote loading technique  - Intravenous, oral, topical, and nasal formulations  **Designing and evaluating solid lipid nanoparticles (SLNs)**  - Cosmetic formulations for topical application  **Designing and evaluating other nanoparticles**  -Polymeric Nanoparticles  - Lipid-Polymer nanoparticles  - Silica-based nanoparticles  -Micelles  -Hydrogels  -Nanoemulsions  -Theranostic agents   1. **Tumor Targeting**   **Targeted Drug Delivery**  - Active targeting with Antibody, Peptide, Aptamer, etc.  - Design Aptamer targeting ligands  - Targeting Cancer Stem Cells  -Targeting Tumor Microenvironment  -Responsive nanomaterials  - Overcoming blood brain barrier  - Combination therapy  - Double targeting  **Enhancing Drug Penetration in Tumor**    -Modulating Tumor Microenvironment  -Modulating Tumor Vasculatures   1. **Vaccine Delivery Systems**   **Cancer Vaccines**  - Antigen delivery systems  - Dendritic cell-based vaccines  **Vaccine delivery systems against infections**  - Liposomal delivery systems for cutaneous leishmaniosis  -Animal model of leishmaniosis   1. **Immunotherapy**   **Chemo-immunotherapy**  - Dendritic Cell therapy for cancer  - manipulating the tumor-associated macrophage phenotype  - Immune Checkpoint Inhibitors for cancer chemo- immunotherapy   1. **Biopharmaceutics and Pharmacokinetics**   **Analysis of biodistribution**  -Analysis of Drug concentration in the mice model  - Analysis of Pharmacokinetic parameters by non-compartmental model   1. **Stem Cells**   **Isolation and characterization**  - Isolation from different sources including human, mouse and rat  **Cell therapy and delivery system**  -Designing engineered exosomes  - Cellular vehicles for drug/gene delivery   1. **Tissue engineering:**   **Scaffolds and Regenerative medicine**  -Designing and evaluating the new scaffolds  -Wound healing and skin regeneration |