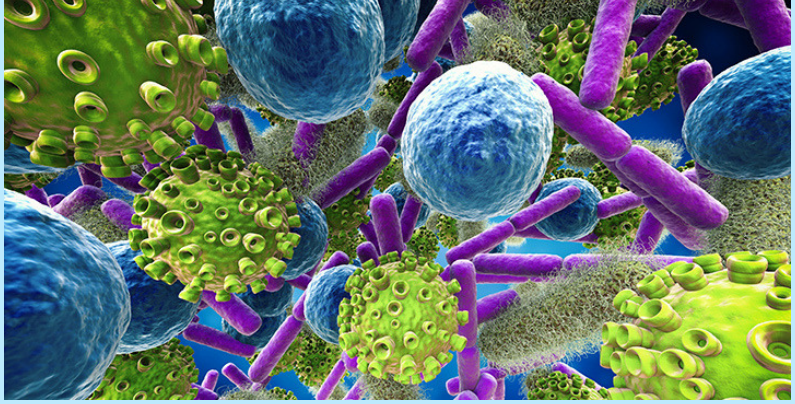
MATT HEMBREE

Research Scientist



SKILLS

- Molecular Biology: Cloning, RT-PCR, Expression vector design, Chimeric antigen receptor (CAR) design, genome editing (by ZFNs and CRISPR), in-vitro RNA synthesis, and RNP electroporation.
- Virology: AAV, Lentiviral vector design, small scale virus production, transduction and stable cell line generation.
- Animal model: In-vivo working experiences with tumor mice models by various administration methods such as intramuscular, intraperitoneal, subcutaneous injections and ex vivo studies.
- Scientific writing and data analysis: IND filing, Patent filing, SOPs, abstracts, manuscript preparations, power-point presentation good record-keeping habit, proficient with data analysis using common software (Flowjo Softmax, Prism, etc.).
- Biochemistry: Protein purification (His-tag by Ni-NTA, gel-filtration, affinity chromatography, etc.), immunoprecipitation, SDS PAGE, western blotting, enzyme assays.

EDUCATION

PhD in Molecular Biology
University of Colorado, Denver, CO

CONTACT INFO

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SUMMARY

Result-driven Molecular Biologist with a background in immune-cell therapy with hands-on experience in T -cells and NK cells engineering, immune assay development such as cytotoxicity assay, ADCC assay, cytokine release assay and multicolor flow cytometry. Self-starter with demonstrated abilities in managing scientific projects by meeting aggressive timelines. Proven success across multiple scientific disciplines, documented with 20+ peer-reviewed publications and patent applications.

PROFESSIONAL EXPERIENCE

RESEARCH SCIENTIST

SPARTA, NEW YORK, NY | MAY 2012 - PRESENT

• Isolation and expansion of T-cells and NK-cells from blood samples.
• Multicolor flow cytometry base characterization NK cells and T cells.
• Develop in vitro cytotoxicity assay on human cancer cell lines with primary NK and T-cells.
• Engineering of NK cells, T cells with chimeric antigen receptors (CARs).
• Generate six CARs lines: two for targeting a solid tumor, two for hematologic malignancies and two for targeting immune checkpoints.
• Validation of CAR lines by cytotoxicity with corresponding cancer target cell lines.
• Establishe high-affinity CD16 expressing NK cell line for screening the antibodies by ADCC.
• Gene knockout in tumor cell lines with CRISPR.
• Developed multiplex ELISA based cytokine release assay on a high throughput platform.

RESEARCH SCIENTIST

FROEHLING & ROBERTSON, INC, NEW YORK, NY |
OCT. 2011 – APR. 2012

• Purified muscle stem cell by flow cytometry from patient muscle biopsy samples.
• Studied muscle cell engraftment study by confocal imaging in MDX mouse model.
• Corrected dystrophic disease locus of patient iPSCs by CRISPR/Cas9.
• Generated and differentiated human ES/iPS cells toward muscle progenitors.
• Generated doxycycline-inducible genetically engineered mouse model.