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Mass Cytometry in Adoptive Cell Therapy Research

September 2021

This bibliography is a current list of peer-reviewed publications, preprints and clinical trials featuring mass cytometry within adoptive cell therapy research. Download the entire mass cytometry bibliography in the Bibliographies section under Resources at **fluidigm.com/mass.cytometry**.

Publications and Preprints

2021

1 Aleman, A. et al. "Fatal breakthrough infection after anti-BCMA CAR-T therapy highlights suboptimal immune response to SARS-CoV-2 vaccination in myeloma patients." *medRxiv* (2021): doi:10.1101/2021.05.15.21256814.

2 Basar, R. et al. "Generation of glucocorticoid resistant SARS-CoV-2 T-cells for adoptive cell therapy." *Cell Reports* 36 (2021): 109432.

3 Becker-Hapak, M.K. et al. "A fusion protein complex that combines IL12, IL15, and IL18 signaling to induce memory-like NK cells for cancer immunotherapy." *Cancer Immunology Research* 9 (2021): 1,071–1,087.

4 Chong, E.A. et al. "Pembrolizumab for B-cell lymphomas relapsing after or refractory to CD19-directed CAR T-cell therapy." *Blood* (2021): doi:10.1182/blood.2021012634.

5 Corneau, A. et al. "Mass cytometry: a robust platform for the comprehensive immunomonitoring of CAR-T-cell therapies." *British Journal of Haematology* 194 (2021): 788–792.

6 Dong, S. et al. "The effects of low-dose IL-2 on Treg adoptive cell therapy in patients with Type 1 diabetes." *JCI Insight* 6 (2021): e147474.

7 Funk, C.R. et al. "PI3Kδ/γ inhibition promotes CART cell epigenetic and metabolic re-programming to enhance anti-tumor cytotoxicity." *Blood* (2021): doi:10.1182/blood.2021011597.

8 Jing, R. et al. "Cas9-cleavage sequences in size-reduced plasmids enhance nonviral genome targeting of CARs in primary human T cells." *Small Methods* 5 (2021): 2100071.

9 Kararoudi, M.N. et al. "CRISPR-targeted CAR gene insertion using Cas9/RNP and AAV6 enhances anti-AML activity of primary NK cells." *bioRxiv* (2021): doi:10.1101/2021.03.17.435886.

10 Kerbauy, L.N. et al. "Combining AFM13, a bispecific CD30/CD16 antibody, with cytokine-activated blood and cord blood-derived NK cells facilitates CAR-like responses against CD30+ malignancies." *Clinical Cancer Research* 27 (2021): 3,744–3,756.

11 Levine, L.S. et al. “Single-cell analysis by mass cytometry reveals metabolic states of early-activated CD8+ T cells during the primary immune response.” *Immunity* 54 (2021): 829–844.e5.

12 Li, S. et al. “Characterization of neoantigen-specific T cells in cancer resistant to immune checkpoint therapies.” *Proceedings of the National Academy of Sciences of the United States of America* 118 (2021): e2025570118.

13 Liu, E. et al. “GMP-compliant universal antigen presenting cells (uAPC) promote the metabolic fitness and antitumor activity of armored cord blood CAR-NK cells.” *Frontiers in Immunology* 12 (2021): 626098.

14 Marin, N.D. et al. “Memory-like differentiation enhances NK cell responses to melanoma.” *Clinical Cancer Research* 27 (2021): 4,859–4,869.

15 Melenhorst, J.J. et al. “Decade-long remissions of leukemia sustained by the persistence of activated CD4+ CAR T-cells.” *bioRxiv* (2021): doi:10.1101/2021.05.07.443194.

16 Seo, H. et al. “BATF and IRF4 cooperate to counter exhaustion in tumor-infiltrating CAR T cells.” *Nature Immunology* 22 (2021): 983–995.

17 Simonetta, F. et al. “Molecular imaging of chimeric antigen receptor T cells by ICOS-ImmunoPET.” *Clinical Cancer Research* 27 (2021): 1,058—1,068.

18 Tschan-Plessl, A. et al. “Cellular immunotherapy with multiple infusions of in vitro-expanded haploidentical natural killer cells after autologous transplantation for patients with plasma cell myeloma.” *Cytotherapy* 23 (2021): 329–338.

19 Weber, E.W. et al. “Transient rest restores functionality in exhausted CAR-T cells through epigenetic remodeling.” *Science* 372 (2021): eaba1786.

2020

1 Berrien-Elliott, M.M. et al. “Multidimensional analyses of donor memory-like NK cells reveal new associations with response after adoptive immunotherapy for leukemia.” *Cancer Discovery* 10 (2020)*:* 1,854–1,871.

2 Gang, M. et al. “CAR-modified memory-like NK cells exhibit potent responses to NK-resistant lymphomas.” *Blood* 136 (2020): 2,308–2,318.

3 Krishna, S. et al. “Stem-like CD8 T cells mediate response of adoptive cell immunotherapy against human cancer.” *Science* 370 (2020): 1,328–1,334.

4 Kverneland, A.H. et al. “Adoptive cell therapy in combination with checkpoint inhibitors in ovarian cancer.” *Oncotarget* 11 (2020): 2,092–2,105.

5 Lee, K.H. et al. “*Ex vivo* enrichment of PRAME antigen-specific T cells for adoptive immunotherapy using CD137 activation marker selection.” *Clinical & Translational Immunology* 9 (2020): e1200.

6 Michelozzi, I.M. et al. “The enhanced functionality of low-affinity CD19 CAR T cells is associated with activation priming and polyfunctional cytokine phenotype.” *Blood* 136 (2021): 52–53.

7 Parisi, G. et al. “Persistence of adoptively transferred T cells with a kinetically engineered IL-2 receptor agonist.” *Nature Communications* 11 (2020): 660.

8 Sánchez-Fueyo, A. et al. “Applicability, safety and biological activity of regulatory T cell therapy in liver transplantation.” *American Journal of Transplantation* 20 (2020): 1,125–1,136.

2019

1. Fisher, J. et al. “Engineering γδT cells limits tonic signaling associated with chimeric antigen receptors.” *Science Signaling* 12 (2019): eaax1872.
2. Nowicki, T.S. et al. “A pilot trial of the combination of transgenic NY-ESO-1-reactive adoptive cellular therapy with dendritic cell vaccination with or without ipilimumab.” *Clinical Cancer Research* 25 (2019): 2096–2108.
3. Raj, D. et al. “Switchable CAR-T cells mediate remission in metastatic pancreatic ductal adenocarcinoma.” *Gut* 68 (2019): 1052–1064.

Clinical Research Trials

1. A Study of JNJ-68284528, a Chimeric Antigen Receptor T Cell (CAR-T) Therapy Directed Against B-Cell Maturation Antigen (BCMA) in Participants With Relapsed or Refractory Multiple Myeloma (CARTITUDE-1) (NCT03548207)

2. A Study of JNJ-68284528, a Chimeric Antigen Receptor T Cell (CAR-T) Therapy Directed Against B-cell Maturation Antigen (BCMA) in Participants With Multiple Myeloma (CARTITUDE-2) (NCT04133636)

3. Safety and Efficacy of KTE-C19 in Combination With Atezolizumab in Adults With Refractory Diffuse Large B-Cell Lymphoma (DLBCL) (ZUMA-6) (NCT02926833)

4. Study of PD-1 Inhibitors After CD30.CAR T Cell Therapy in Relapsed/Refractory Hodgkin Lymphoma (NCT04134325)

5. Clinical and Basic Research on BCMA-CAR T Cells in the Treatment of Multiple Myeloma (ChiCTR1800017404)

6. Pembrolizumab in Patients Failing to Respond to or Relapsing After CAR T Cell Therapy for Relapsed or Refractory Lymphomas (NCT02650999)

7. A Study Comparing JNJ-68284528, a CAR-T Therapy Directed Against B-cell Maturation Antigen (BCMA), Versus Pomalidomide, Bortezomib and Dexamethasone (PVd) or Daratumumab, Pomalidomide and Dexamethasone (DPd) in Participants With Relapsed and Lenalidomide-Refractory Multiple Myeloma (CARTITUDE-4) (NCT04181827)

8. A Study of Bortezomib, Lenalidomide and Dexamethasone (VRd) Followed by Cilta-cel, a CAR-T Therapy Directed Against BCMA Versus VRd Followed by Lenalidomide and Dexamethasone (Rd) Therapy in Participants With Newly Diagnosed Multiple Myeloma for Whom ASCT is Not Planned as Initial Therapy (CARTITUDE-5) (NCT4923893)

CORPORATE HEADQUARTERS
2 Tower Place, Suite 2000
South San Francisco, CA 94080 USA
Toll-free: 866 359 4354 in the US and Canada
Fax: 650 871 7152
fluidigm.com

SALES
North America | +1 650 266 6170 | info-us@fluidigm.com
Europe/EMEA | +33 1 60 92 42 40 | info-europe@fluidigm.com
China (excluding Hong Kong) | +86 21 3255 8368 | info-china@fluidigm.com
Japan | +81 3 3662 2150 | info-japan@fluidigm.com
All other Asian countries | +1 650 266 6170 | info-asia@fluidigm.com
Latin America | +1 650 266 6170 | info-latinamerica@fluidigm.com

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