



## Sabine Heitzeneder

Assistant Professor of Pediatrics (Hematology/Oncology)

Pediatrics - Hematology & Oncology

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### Bio

#### ACADEMIC APPOINTMENTS

- Assistant Professor, Pediatrics - Hematology & Oncology
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)

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### Research & Scholarship

#### CLINICAL TRIALS

- GPC2-CAR T Cell Therapy for Relapsed or Refractory Medulloblastoma in Children and Young Adults, Recruiting

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### Teaching

#### STANFORD ADVISEES

##### Postdoctoral Faculty Sponsor

Maximilian Koch, Natalia Plewa Juraszek

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### Publications

#### PUBLICATIONS

- **c-JUN enhances CRISPR knockin anti-B7-H3 CAR T cell function in small cell lung cancer and thoracic SMARCA4-deficient undifferentiated tumors.** *Cell reports. Medicine*  
Balke-Want, H., Keerthi, V., Del Carmen Arenas, M., Chen, Y., Malipatlolla, M., Klysz, D. D., Xu, P., Ho, K., Asano, K., Stahl, D., Huang, J., Retherford, A., Patel, et al  
2026; 7 (1): 102549
- **Quantitative surfaceome profiling of high-risk medulloblastoma prioritizes the oncofetal antigen GPC2 for potent CAR-T cell therapy**  
Usta, D., Gwynne, W., Suk, Y., Chen, Y., Radosevic, M. T., Chernova, D., Delaidelli, A., Feng, Y., Nasajpour, E., Trissal, M. C., Poetschke, R. D., Dunham, C., Labanie, et al  
OXFORD UNIV PRESS INC.2025: v373
- **HUMANIZED ANTI-CAR ANTIBODIES AFFECT DURABLE RESPONSE TO GD2-CAR T-CELLS IN DIFFUSE MIDLINE GLIOMA**  
Chen, Y., Song, K., Huang, Y., Iswari, N., Desai, M., Ehlinger, Z., Daghigh, H., Reynolds, K., Mahdi, J., Majzner, R., Richards, B., Kamens, J., Barsan, et al  
OXFORD UNIV PRESS INC.2025: v114
- **Engineered CD47 protects T cells for enhanced antitumour immunity.** *Nature*  
Yamada-Hunter, S. A., Theruvath, J., McIntosh, B. J., Freitas, K. A., Lin, F., Radosevich, M. T., Leruste, A., Dhingra, S., Martinez-Velez, N., Xu, P., Huang, J., Delaidelli, A., Desai, et al

2024

- **Antigen density quantification of cell-surface immunotherapy targets by flow cytometry: Multi-antigen assay of neuroblastoma bone marrow metastasis.** *STAR protocols*  
Radosevich, M. T., Bornheimer, S. J., Mehrpouryan, M., Sahaf, B., Oak, J. S., Mackall, C. L., Heitzeneder, S.  
2023; 4 (4): 102709
- **Identifying tumor-restricted target antigens for adoptive cellular immunotherapy to treat Ewing Sarcoma using multiomic discovery platforms**  
Heitzeneder, S.  
AMER ASSOC CANCER RESEARCH.2022
- **Enhanced safety and efficacy of protease-regulated CAR-T cell receptors.** *Cell*  
Labanieh, L., Majzner, R. G., Klysz, D., Sotillo, E., Fisher, C. J., Vilches-Moure, J. G., Pacheco, K. Z., Malipatlolla, M., Xu, P., Hui, J. H., Murty, T., Theruvath, J., Mehta, et al  
2022
- **Anti-GD2 synergizes with CD47 blockade to mediate tumor eradication.** *Nature medicine*  
Theruvath, J., Menard, M., Smith, B. A., Linde, M. H., Coles, G. L., Dalton, G. N., Wu, W., Kiru, L., Delaidelli, A., Sotillo, E., Silberstein, J. L., Geraghty, A. C., Banuelos, et al  
1800
- **GPC2-CAR T cells tuned for low antigen density mediate potent activity against neuroblastoma without toxicity** *CANCER CELL*  
Heitzeneder, S., Bosse, K. R., Zhu, Z., Zhelev, D., Majzner, R. G., Radosevich, M. T., Dhingra, S., Sotillo, E., Buongervino, S., Pascual-Pasto, G., Garrigan, E., Xu, P., Huang, et al  
2022; 40 (1): 53-+
- **GPC2-CAR T cells tuned for low antigen density mediate potent activity against neuroblastoma without toxicity.** *Cancer cell*  
Heitzeneder, S., Bosse, K. R., Zhu, Z., Zhelev, D., Majzner, R. G., Radosevich, M. T., Dhingra, S., Sotillo, E., Buongervino, S., Pascual-Pasto, G., Garrigan, E., Xu, P., Huang, et al  
1800
- **Potent activity of CAR T cells targeting the oncofetal protein GPC2 engineered to recognize low antigen density in neuroblastoma.**  
Heitzeneder, S., Bosse, K. R., Zhu, Z., Jeleu, D., Dhingra, S., Majzner, R., Sotillo-Pineiro, E., Buongervino, S., Xu, P., Huang, J., Delaidelli, A., Hasselblatt, M., Parker, et al  
AMER ASSOC CANCER RESEARCH.2021
- **Transient rest restores functionality in exhausted CAR-T cells through epigenetic remodeling.** *Science (New York, N.Y.)*  
Weber, E. W., Parker, K. R., Sotillo, E., Lynn, R. C., Anbunathan, H., Lattin, J., Good, Z., Belk, J. A., Daniel, B., Klysz, D., Malipatlolla, M., Xu, P., Bashti, et al  
2021; 372 (6537)
- **Glypican-2 targeted CAR T cells designed to effectively eradicate endogenous site density solid tumors in the absence of toxicity**  
Heitzeneder, S., Bosse, K. R., Zhu, Z., Majzner, R. G., Theruvath, J., Xu, P., Dhingra, S., Anbunathan, H., Alag, A., Dimitrov, D. S., Maris, J. M., Mackall, C. L.  
AMER ASSOC CANCER RESEARCH.2020: 46
- **Locoregionally administered B7H3-targeting CAR T cells mediate potent antitumor effects in atypical teratoid/rhabdoid tumor**  
Theruvath, J., Sotillo, E., Graef, C., Heitzeneder, S., Labanieh, L., Majzner, R., Mackall, C.  
AMER ASSOC CANCER RESEARCH.2020: 33
- **GD2 is a macrophage checkpoint molecule and combined GD2/CD47 blockade results in synergistic effects and tumor clearance in xenograft models of neuroblastoma and osteosarcoma**  
Theruvath, J., Smith, B., Linde, M. H., Sotillo, E., Heitzeneder, S., Marjon, K., Tousley, A., Lattin, J., Banuelos, A., Dhingra, S., Murty, S., Mackall, C. L., Majzner, et al  
AMER ASSOC CANCER RESEARCH.2020: 35
- **Tuning the Antigen Density Requirement for CAR T Cell Activity.** *Cancer discovery*  
Majzner, R. G., Rietberg, S. P., Sotillo, E. n., Dong, R. n., Vachharajani, V. T., Labanieh, L. n., Myklebust, J. H., Kadapakkam, M. n., Weber, E. W., Tousley, A. M., Richards, R. M., Heitzeneder, S. n., Nguyen, et al  
2020

- **Locoregionally administered B7-H3-targeted CAR T cells for treatment of atypical teratoid/rhabdoid tumors.** *Nature medicine*  
Theruvath, J. n., Sotillo, E. n., Mount, C. W., Graef, C. M., Delaidelli, A. n., Heitzeneder, S. n., Labanieh, L. n., Dhingra, S. n., Leruste, A. n., Majzner, R. G., Xu, P. n., Mueller, S. n., Yecies, et al  
2020
- **CAR T Cells Targeting B7-H3, a Pan-Cancer Antigen, Demonstrate Potent Preclinical Activity Against Pediatric Solid Tumors and Brain Tumors** *CLINICAL CANCER RESEARCH*  
Majzner, R. G., Theruvath, J. L., Nellan, A., Heitzeneder, S., Cui, Y., Mount, C. W., Rietberg, S. P., Linde, M. H., Xu, P., Rota, C., Sotillo, E., Labanieh, L., Lee, et al  
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- **LOCALLY ADMINISTERED CART CELLS DEMONSTRATE MOST FAVORABLE ROUTE OF ADMINISTRATION IN A MODEL OF ATRT**  
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- **CAR T cells targeting B7-H3, a Pan-Cancer Antigen, Demonstrate Potent Preclinical Activity Against Pediatric Solid Tumors and Brain Tumors.** *Clinical cancer research : an official journal of the American Association for Cancer Research*  
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- **Pregnancy-Associated Plasma Protein-A (PAPP-A) in Ewing Sarcoma: Role in Tumor Growth and Immune Evasion.** *Journal of the National Cancer Institute*  
Heitzeneder, S. n., Sotillo, E. n., Shern, J. F., Sindiri, S. n., Xu, P. n., Jones, R. n., Pollak, M. n., Noer, P. R., Lorette, J. n., Fazli, L. n., Alag, A. n., Meltzer, P. n., Lau, et al  
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- **CHECKPOINT MOLECULE B7-H3 IS HIGHLY EXPRESSED ON ATYPICAL RHABDOID TERATOID TUMOR (ATRT) AND IS A PROMISING CANDIDATE FOR CAR T CELL THERAPY**  
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- **CAR T CELLS TARGETING B7-H3, A PAN-CANCER ANTIGEN, DEMONSTRATE POTENT PRECLINICAL ACTIVITY AGAINST PEDIATRIC SOLID TUMORS AND BRAIN TUMORS**  
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Majzner, R. G., Heitzeneder, S., Mackall, C. L.  
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- **Identification of GPC2 as an Oncoprotein and Candidate Immunotherapeutic Target in High-Risk Neuroblastoma.** *Cancer cell*  
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