



Tanja A. Gruber

Chambers Family Endowed Professor for Pediatric Cancer
Pediatrics - Hematology & Oncology

CLINICAL OFFICE (PRIMARY)

- **Pediatric Hematology and Oncology**

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ACADEMIC CONTACT INFORMATION

- **Administrator**

Aronne Schwartz - Lead Administrator - Pediatric Hematology/
Oncology

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Bio

CLINICAL FOCUS

- Oncology
- Pediatric Hematology-Oncology

ACADEMIC APPOINTMENTS

- Professor - University Medical Line, Pediatrics - Hematology & Oncology
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute

ADMINISTRATIVE APPOINTMENTS

- Division Chief, Pediatric Hematology, Oncology, Stem Cell Transplantation & Regenerative Medicine, (2020- present)
- Director, Bass Center for Childhood Cancer and Blood Diseases, Lucile Packard Children's Hospital, Stanford, (2020- present)
- Associate Director, Childhood Cancer, Stanford Cancer Institute, (2020- present)

PROFESSIONAL EDUCATION

- Board Certification: Pediatrics, American Board of Pediatrics (2007)
- Board Certification: Pediatric Hematology-Oncology, American Board of Pediatrics (2011)
- Fellowship: Childrens Hospital Los Angeles Hematology Oncology Fellowship (2009) CA
- Residency: Children's Hospital Los Angeles Pediatric Residency (2006) CA
- Medical Education: University of Southern California (2003) CA

LINKS

- Gruber Lab Site: <https://med.stanford.edu/gruberlab.html>

Research & Scholarship

CLINICAL TRIALS

- Palbociclib in Combination With Chemotherapy in Pediatric Patients With Relapsed or Refractory Acute Lymphoblastic Leukemia (REL Pall2), Recruiting
- Study of Talazoparib in Combination With Chemotherapy in Relapsed Pediatric AML to Determine Safety and Efficacy, Recruiting
- A Trial of Epigenetic Priming in Patients With Newly Diagnosed Acute Myeloid Leukemia, Not Recruiting
- Total Therapy for Infants With Acute Lymphoblastic Leukemia (ALL) I, Not Recruiting

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Mohammad Balood, Ram Rao, Binay Sahoo

Publications

PUBLICATIONS

- **Genome editing-induced t(4;11) chromosomal translocations model B cell precursor acute lymphoblastic leukemias with KMT2A-AFF1 fusion.** *The Journal of clinical investigation*
Pan, F., Sarno, J., Jeong, J., Yang, X., Jager, A., Gruber, T. A., Davis, K. L., Cleary, M. L.
2023
- **Outcome of Infants Treated on Total Therapy for Infants with Acute Lymphoblastic Leukemia I: Results from a Non-Randomized Multi-Center Study**
Gruber, T. A., Huang, M., Jeha, S., Deyell, R. J., Lewis, V. A., Chang, B. H., Lowe, E. J., Frediani, J., Vezina, C., Michon, B., Gossai, N., Breese, E. H., Thai Hoa Tran, et al
AMER SOC HEMATOLOGY.2023
- **CBFA2T3::GLIS2 Pediatric Acute Megakaryoblastic Leukemia is Sensitive to BCL-XL Inhibition by Navitoclax and DT2216.** *Blood advances*
Gress, V., Roussy, M., Boulianne, L., Bilodeau, M., Cardin, S., El-Hachem, N., Lisi, V., Khakipoor, B., Rouette, A., Farah, A., Théret, L., Aubert, L., Fatima, et al
2023
- **CBFA2T3-GLIS2-dependent pediatric acute megakaryoblastic leukemia is driven by GLIS2 and sensitive to navitoclax.** *Cell reports*
Neault, M., Lebert-Ghali, C. É., Fournier, M., Capdevielle, C., Garfinkle, E. A., Obermayer, A., Cotton, A., Boulay, K., Sawchyn, C., St-Amand, S., Nguyen, K. H., Assaf, B., Mercier, et al
2023: 113084
- **Proteasome inhibition targets the KMT2A transcriptional complex in acute lymphoblastic leukemia.** *Nature communications*
Kamens, J. L., Nance, S., Koss, C., Xu, B., Cotton, A., Lam, J. W., Garfinkle, E. A., Nallagatla, P., Smith, A. M., Mitchell, S., Ma, J., Currier, D., Wright, et al
2023; 14 (1): 809
- **Malignant Progression of an Ancestral Bone Marrow Clone Harboring a CIC-NUTM2A Fusion in Isolated Myeloid Sarcoma.** *Molecular cancer research : MCR*
Kamens, J. L., Dang, J., Shaw, T. I., Gout, A. M., Newman, S., Hagiwara, K., Smith, A. M., Obermayer, A. N., Aldridge, S., Ma, J., Zhang, Y., Wu, G., Leventaki, et al
2023: OF1-OF6
- **An inflammatory state remodels the immune microenvironment and improves risk stratification in acute myeloid leukemia.** *Nature cancer*
Lasry, A., Nadorp, B., Fornerod, M., Nicolet, D., Wu, H., Walker, C. J., Sun, Z., Witkowski, M. T., Tikhonova, A. N., Guillamot-Ruano, M., Cayanan, G., Yeaton, A., Robbins, et al
2022
- **Development of clinical pathways to improve multidisciplinary care of high-risk pediatric oncology patients.** *Frontiers in oncology*
Reschke, A., Richards, R. M., Smith, S. M., Long, A. H., Marks, L. J., Schultz, L., Kamens, J. L., Aftandilian, C., Davis, K. L., Gruber, T., Sakamoto, K. M.
2022; 12: 1033993

- **Proteomic Analysis Identifies Epigenetic Modifiers and Potential Negative Regulators of Leukemogenesis KMD6A and SETDB1 to be Induced Post In Vivo Decitabine Exposure in Pediatric AML**
Lamba, J. K., Cao, X., Wu, H., Inaba, H., Ribeiro, R. C., Peng, J., Gruber, T. A., Rubnitz, J. E., Pounds, S. B.
AMER SOC HEMATOLOGY.2022: 6086-6087
- **Genomic Integration of Adult and Pediatric Acute Myeloid Leukemia Reveals Age Dependent Risk Association**
Fornerod, M., Nicolet, D., Mrozek, K., Kolitz, J. E., Blum, W. G., Moore, J. O., Mayer, R., Stone, R. M., Uy, G. L., Stock, W., Byrd, J. C., Eisfeld, A., Gruber, et al
AMER SOC HEMATOLOGY.2022: 9165-9166
- **Clofarabine treatment of KMT2Ar infantile patients with acute lymphoblastic leukemia in St. Jude Total Therapy Study 16.** *Blood advances*
Gruber, T. A., Pei, D., Choi, J., Cheng, C., Coustan-Smith, E., Campana, D., Swanson, H. D., Pauley, J. L., Inaba, H., Metzger, M. L., Rubnitz, J. E., Ribeiro, R. C., Raimondi, et al
2022
- **The development of therapy related myeloid neoplasms in childhood cancer survivors.** *Trends in cancer*
Obeng, E. A., Gruber, T. A.
2022
- **A CRISPR/Cas9 engineered MplS504N mouse model recapitulates human myelofibrosis.** *Leukemia*
Adriaanse, F. R., Kamens, J. L., Vogel, P., Sakurada, S. M., Pruett-Miller, S. M., Stam, R. W., Michel Zwaan, C., Gruber, T. A.
2022
- **Therapy-related myeloid neoplasms resembling juvenile myelomonocytic leukemia: a case series and review of the literature.** *Pediatric blood & cancer*
Wintering, A., Smith, S., Fuh, B., Rangaswami, A., Dahl, G., Chien, M., Gruber, T. A., Dang, J., Li, L. S., Lenzen, A., Savelli, S., Dvorak, C. C., Agrawal, et al
1800: e29499
- **Clofarabine-Based Chemotherapy for KMT2Ar Infantile Acute Lymphoblastic Leukemia**
Gruber, T., Pei, D., Choi, J., Cheng, C., Coustan-Smith, E., Campana, D., Swanson, H., Pauley, J. L., Inaba, H., Metzger, M., Rubnitz, J. E., Ribeiro, R. C., Raimondi, et al
AMER SOC HEMATOLOGY.2021
- **A Novel Humanized Murine Model to Identify Neoantigen-Specific T Cells in CBFA2T3-GLIS2 Positive Acute Megakaryoblastic Leukemia**
Garfinkle, E. R., Crawford, J., Zamora, A. E., Croft, N. P., Purcell, A. W., Cotton, A., Kirk, A., Chou, C., Thomas, P. G., Gruber, T.
AMER SOC HEMATOLOGY.2021
- **Loss of PTEN in Pediatric AML Confers Sensitivity to PARP Inhibition**
Kamens, J., Cotton, A., Lam, J. W., Dang, J., Seth, A., Hansen, B. S., Pruett-Miller, S. M., Shelat, A., Gruber, T.
AMER SOC HEMATOLOGY.2021
- **The landscape of coding RNA editing events in pediatric cancer.** *BMC cancer*
Wen, J., Rusch, M., Brady, S. W., Shao, Y., Edmonson, M. N., Shaw, T. I., Powers, B. B., Tian, L., Easton, J., Mullighan, C. G., Gruber, T., Ellison, D., Zhang, et al
2021; 21 (1): 1233
- **Comprehensive analysis of dose intensity of acute lymphoblastic leukemia chemotherapy.** *Haematologica*
Karol, S. E., Pei, D., Smith, C. A., Liu, Y., Yang, W., Kornegay, N. M., Panetta, J. C., Crews, K. R., Cheng, C., Finch, E. R., Inaba, H., Metzger, M. L., Rubnitz, et al
2021
- **Novel pediatric AML patient risk stratification by inferred protein activity through integrative network analysis and machine learning.**
Alloy, A. P., Pavisic, J., Ries, R. E., Gruber, T., Zwaan, C., Den Boer, M. L., Downing, J. R., Ferrando, A., Meshinchi, S., Califano, A.
AMER ASSOC CANCER RESEARCH.2021
- **Prognostic and therapeutic significance of leukemia subtypes in the context of risk-directed therapy based on minimal residual disease levels in pediatric acute lymphoblastic leukemia.**
Jeha, S., Choi, J. K., Pei, D., Coustan-Smith, E., Inaba, H., Rubnitz, J. E., Ribiero, R. C., Gruber, T. A., Raimondi, S. C., Karol, S. E., Roberts, K. G., Yang, J. J., Cheng, et al
AMER ASSOC CANCER RESEARCH.2021
- **Clinicopathologic and prognostic features of TdT-negative pediatric B-lymphoblastic leukemia.** *Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc*

- Klairmont, M. M., Zhou, Y., Cheng, C., Pui, C., Jeha, S., Gruber, T. A., Liu, Y., Inaba, H., Choi, J. K.
2021
- **Inotuzumab ozogamicin in infants and young children with relapsed or refractory acute lymphoblastic leukaemia: a case series.** *British journal of haematology*
Brivio, E., Chantrain, C. F., Gruber, T. A., Thanos, A., Rialland, F., Contet, A., Elitzur, S., Dalla-Pozza, L., Kallay, K. M., Li, C., Kato, M., Markova, I., Schmiegelow, et al
2021
 - **Sensitive GATA1 mutation screening reliably identifies neonates with Down syndrome at risk for myeloid leukemia.** *Leukemia*
Goemans, B. F., Noort, S., Blink, M., Wang, Y., Peters, S. T., van Wouwe, J. P., Kaspers, G., de Haas, V., Kollen, W. J., van der Velden, V. H., Gruber, T. A., Zwaan, C. M.
2021
 - **The acquisition of molecular drivers in pediatric therapy-related myeloid neoplasms.** *Nature communications*
Schwartz, J. R., Ma, J., Kamens, J., Westover, T., Walsh, M. P., Brady, S. W., Robert Michael, J., Chen, X., Montefiori, L., Song, G., Wu, G., Wu, H., Branstetter, et al
2021; 12 (1): 985
 - **Integrative Genomic Analysis of Pediatric Myeloid-Related Acute Leukemias Identifies Novel Subtypes and Prognostic Indicators.** *Blood cancer discovery*
Fornerod, M., Ma, J., Noort, S., Liu, Y., Walsh, M. P., Shi, L., Nance, S., Liu, Y., Wang, Y., Song, G., Lamprecht, T., Easton, J., Mulder, et al
2021; 2 (6): 586-599
 - **DNA Methylation Clusters and Their Relation to Cytogenetic Features in Pediatric AML.** *Cancers*
Lamba, J. K., Cao, X., Raimondi, S., Downing, J., Ribeiro, R., Gruber, T. A., Rubnitz, J., Pounds, S.
2020; 12 (10)
 - **Menin inhibitor MI-3454 induces remission in MLL1-rearranged and NPM1-mutated models of leukemia.** *The Journal of clinical investigation*
Klossowski, S., Miao, H., Kempinska, K., Wu, T., Purohit, T., Kim, E., Linhares, B. M., Chen, D., Jih, G., Perkey, E., Huang, H., He, M., Wen, et al
2020; 130 (2): 981-997
 - **Improved CNS Control of Childhood Acute Lymphoblastic Leukemia Without Cranial Irradiation: St Jude Total Therapy Study 16.** *Journal of clinical oncology : official journal of the American Society of Clinical Oncology*
Jeha, S., Pei, D., Choi, J., Cheng, C., Sandlund, J. T., Coustan-Smith, E., Campana, D., Inaba, H., Rubnitz, J. E., Ribeiro, R. C., Gruber, T. A., Raimondi, S. C., Khan, et al
2019; 37 (35): 3377-3391
 - **Prognostic impact of t(16;21)(p11;q22) and t(16;21)(q24;q22) in pediatric AML: a retrospective study by the I-BFM Study Group.** *Blood*
Noort, S., Zimmermann, M., Reinhardt, D., Cucuini, W., Pigazzi, M., Smith, J., Ries, R. E., Alonzo, T. A., Hirsch, B., Tomizawa, D., Locatelli, F., Gruber, T. A., Raimondi, et al
2018; 132 (15): 1584-1592
 - **De novo activating mutations drive clonal evolution and enhance clonal fitness in KMT2A-rearranged leukemia.** *Nature communications*
Hyrenius-Wittsten, A., Pilheden, M., Stureson, H., Hansson, J., Walsh, M. P., Song, G., Kazi, J. U., Liu, J., Ramakrishnan, R., Garcia-Ruiz, C., Nance, S., Gupta, P., Zhang, et al
2018; 9 (1): 1770
 - **AMKL chimeric transcription factors are potent inducers of leukemia.** *Leukemia*
Dang, J., Nance, S., Ma, J., Cheng, J., Walsh, M. P., Vogel, P., Easton, J., Song, G., Rusch, M., Gedman, A. L., Koss, C., Downing, J. R., Gruber, et al
2017; 31 (10): 2228-2234
 - **Pediatric non-Down syndrome acute megakaryoblastic leukemia is characterized by distinct genomic subsets with varying outcomes.** *Nature genetics*
de Rooij, J. D., Branstetter, C., Ma, J., Li, Y., Walsh, M. P., Cheng, J., Obulkasim, A., Dang, J., Easton, J., Verboon, L. J., Mulder, H. L., Zimmermann, M., Koss, et al
2017; 49 (3): 451-456
 - **Clinical impact of minimal residual disease in children with different subtypes of acute lymphoblastic leukemia treated with Response-Adapted therapy.** *Leukemia*
Pui, C. H., Pei, D., Raimondi, S. C., Coustan-Smith, E., Jeha, S., Cheng, C., Bowman, W. P., Sandlund, J. T., Ribeiro, R. C., Rubnitz, J. E., Inaba, H., Gruber, T. A., Leung, et al
2017; 31 (2): 333-339

- **The genomic landscape of core-binding factor acute myeloid leukemias.** *Nature genetics*
Faber, Z. J., Chen, X., Gedman, A. L., Boggs, K., Cheng, J., Ma, J., Radtke, I., Chao, J. R., Walsh, M. P., Song, G., Andersson, A. K., Dang, J., Dong, et al
2016; 48 (12): 1551-1556
- **Germline Mutations in Predisposition Genes in Pediatric Cancer.** *The New England journal of medicine*
Zhang, J., Walsh, M. F., Wu, G., Edmonson, M. N., Gruber, T. A., Easton, J., Hedges, D., Ma, X., Zhou, X., Yergeau, D. A., Wilkinson, M. R., Vadodaria, B., Chen, et al
2015; 373 (24): 2336-2346
- **The genomic landscape of juvenile myelomonocytic leukemia** *NATURE GENETICS*
Stieglitz, E., Taylor-Weiner, A. N., Chang, T. Y., Gelston, L. C., Wang, Y., Mazor, T., Esquivel, E., Yu, A., Seepo, S., Olsen, S. R., Rosenberg, M., Archambeault, S. L., Abusin, et al
2015; 47 (11): 1326-?
- **The landscape of somatic mutations in infant MLL-rearranged acute lymphoblastic leukemias.** *Nature genetics*
Andersson, A. K., Ma, J., Wang, J., Chen, X., Gedman, A. L., Dang, J., Nakitandwe, J., Holmfeldt, L., Parker, M., Easton, J., Huether, R., Kriwacki, R., Rusch, et al
2015; 47 (4): 330-7
- **Clinical utility of sequential minimal residual disease measurements in the context of risk-based therapy in childhood acute lymphoblastic leukaemia: a prospective study.** *The Lancet. Oncology*
Pui, C. H., Pei, D., Coustan-Smith, E., Jeha, S., Cheng, C., Bowman, W. P., Sandlund, J. T., Ribeiro, R. C., Rubnitz, J. E., Inaba, H., Bhojwani, D., Gruber, T. A., Leung, et al
2015; 16 (4): 465-74
- **The landscape of somatic mutations in epigenetic regulators across 1,000 paediatric cancer genomes.** *Nature communications*
Huether, R., Dong, L., Chen, X., Wu, G., Parker, M., Wei, L., Ma, J., Edmonson, M. N., Hedlund, E. K., Rusch, M. C., Shurtleff, S. A., Mulder, H. L., Boggs, et al
2014; 5: 3630
- **Whole-exome sequencing identifies a novel somatic mutation in MMP8 associated with a t(1;22)-acute megakaryoblastic leukemia.** *Leukemia*
Kim, Y., Schulz, V. P., Satake, N., Gruber, T. A., Teixeira, A. M., Halene, S., Gallagher, P. G., Krause, D. S.
2014; 28 (4): 945-8
- **An Inv(16)(p13.3q24.3)-encoded CBFA2T3-GLIS2 fusion protein defines an aggressive subtype of pediatric acute megakaryoblastic leukemia.** *Cancer cell*
Gruber, T. A., Larson Gedman, A., Zhang, J., Koss, C. S., Marada, S., Ta, H. Q., Chen, S. C., Su, X., Ogden, S. K., Dang, J., Wu, G., Gupta, V., Andersson, et al
2012; 22 (5): 683-97