Stanford

Yong Yean Kim

Assistant Professor of Pediatrics (Hematology & Oncology)

Pediatrics - Hematology & Oncology

CLINICAL OFFICE (PRIMARY)

- **Pediatric Hematology and Oncology**

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Bio

BIO

Our lab is interested in translational science to bring new therapies to clinical trials. In particular, we are interested in pediatric sarcomas which have not had advancement in clinical treatment for decades. Current projects in the lab focus on understanding of the biology of fusion transcription factor PAX3::FOXO1 which is the driver mutation in fusion positive rhabdomyosarcoma. PAX3::FOXO1 is a powerful oncogenic transcription factor which rewires the transcriptional organization to lock the cancer cell in the proliferative state. Since transcription factors including PAX3::FOXO1 are difficult to target using small molecules, we aim to understand how PAX3::FOXO1 is regulated and targeting the regulators of PAX3::FOXO1. By understanding and targeting the regulation of PAX3::FOXO1, we hope to bring new therapies for fusion positive rhabdomyosarcoma. Additionally, these regulatory mechanisms may also be active in other transcription driven cancers such as the EWSR1::FLI1 driven Ewings Sarcoma.

Our lab is also interested in exploring the epigenetic landscape of pediatric solid tumors and trying to understand how dysregulation in the epigenome drives oncogenesis. We utilize various CRISPR mediated genetic techniques to interrogate the regulators of epigenome focusing on the histone lysine demethylases (KDMs). KDMs are an understudied group of epigenetic regulators which can be targeted for therapeutic effect. We explore the role of KDMs in pediatric solid tumors and hope to identify potential targets for drug development.

CLINICAL FOCUS

- Pediatric Hematology-Oncology
- Pediatric Solid Tumors

ACADEMIC APPOINTMENTS

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

PROFESSIONAL EDUCATION

- Board Certification: Pediatric Hematology-Oncology, American Board of Pediatrics (2021)
- Fellowship: Childrens National Medical Center (2019) DC
- Residency: University of Florida (2016) FL
- Internship: University of Minnesota General Surgery Residency (2012) MN
- Medical Education: University of Minnesota Medical School Twin Cities (2011) MN

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Rachel Clark

Publications

PUBLICATIONS

- **KDM3B inhibitors disrupt the oncogenic activity of PAX3-FOXO1 in fusion-positive rhabdomyosarcoma.** *Nature communications*
  Kim, Y. Y., Gryder, B. E., Sinniah, R., Peach, M. L., Shern, J. F., Abdelmaksoud, A., Pomella, S., Woldemichael, G. M., Stanton, B. Z., Milewski, D., Barchi, J. J., Schneekloth, J. S., Chari, et al
  2024; 15 (1): 1703

- **CAR T-cells targeting FGFR4 and CD276 simultaneously show potent antitumor effect against childhood rhabdomyosarcoma.** *Nature communications*
  Tian, M., Wei, J. S., Cheuk, A. T., Milewski, D., Zhang, Z., Kim, Y. Y., Chou, H. C., Liu, C., Badr, S., Pope, E. G., Rahmy, A., Wu, J. T., Kelly, et al
  2024; 15 (1): 6222

- **Neopetrotaurines A-C, Isoquinoline Alkaloids with an Unprecedented Taurine Bridge from the Sponge Neopetrosia sp.** *Journal of natural products*
  Wang, D., Jiang, W., Churiwal, M., Jia, K., Senadeera, S. P., Bokesch, H. R., Woldemichael, G. M., Kim, Y., Hawley, R. G., Wei, J. S., Khan, J., O'Keefe, B. R., Beutler, et al
  2024; 87 (2): 332-339

- **Preclinical development of a chimeric antigen receptor T cell therapy targeting FGFR4 in rhabdomyosarcoma.** *Cell reports. Medicine*
  Tian, M., Wei, J. S., Shivaprasad, N., Highfill, S. L., Gryder, B. E., Milewski, D., Brown, G. T., Moses, L., Song, H., Wu, J. T., Azorsa, P., Kumar, J., Schneider, et al
  2023: 101212

- **A stem cell epigenome is associated with primary nonresponse to CD19 CAR T cells in pediatric acute lymphoblastic leukemia.** *Blood advances*
  Masih, K. E., Gardner, R. A., Chou, H. C., Abdelmaksoud, A., Song, Y. K., Mariani, L., Gangalapudi, V., Gryder, B. E., Wilson, A. L., Adebola, S. O., Stanton, B. Z., Wang, C., Milewski, et al
  2023; 7 (15): 4218-4232

- **An optimized bicistronic chimeric antigen receptor against GPC2 or CD276 overcomes heterogeneous expression in neuroblastoma.** *The Journal of clinical investigation*
  Tian, M., Cheuk, A. T., Wei, J. S., Abdelmaksoud, A., Chou, H. C., Milewski, D., Kelly, M. C., Song, Y. K., Dower, C. M., Li, N., Qin, H., Kim, Y. Y., Wu, et al
  2022; 132 (16)

- **Lysine Demethylase 5A is Required for MYC Driven Transcription in Multiple Myeloma.** *Blood cancer discovery*
  Ohguchi, H., Park, P. M., Wang, T., Gryder, B. E., Ogiya, D., Kurata, K., Zhang, X., Li, D., Pei, C., Masuda, T., Johansson, C., Wimalasena, V. K., Kim, et al
  2021; 2 (4): 370-387

- **Primary pulmonary artery sarcoma in the pediatric patient: Review of literature and a case report.** *Radiology case reports*

Kim, Y. Y., Wynn, T. T., Reith, J. D., Slayton, W. B., Lagmay, J., Fort, J., Rajderkar, D. A.
2020; 15 (7): 1110-1114

- **Eukaryotic initiation factor 4E binding protein family of proteins: sentinels at a translational control checkpoint in lung tumor defense.** *Cancer research*
  Kim, Y. Y., Von Weymarn, L., Larsson, O., Fan, D., Underwood, J. M., Peterson, M. S., Hecht, S. S., Polunovsky, V. A., Bitterman, P. B.
  2009; 69 (21): 8455-62