

Research interests

1. Characterization of leukemia stem cells in acute myeloid leukemia (AML).
2. Development of drugs targeting AML.

Qualifications

Doctor of Philosophy, The characterization of the regulation and degradation of cyclin A and cyclin F during mitosis, the Hong Kong University of Science and Technology
Award Date: 1 Jan 2006

Bachelor of Science, the Hong Kong University of Science and Technology
Award Date: 1 Jan 2002

Research output

Hematopoietic stem cell quiescence and DNA replication dynamics maintained by the resilient β -catenin/Hoxa9/Prmt1 axis
So, C. W. E., Zeisig, B., Fung, T. K., Troadec, E., Lau, P., Cheung, N. & Lynch, J., 18 Apr 2024, In: *Blood*. 143, 16, p. 1586-1598 13 p.

A novel network pharmacology approach for leukaemia differentiation therapy using Mogrify[®]

Lee, L. M., Christodoulou, E. G., Shyamsunder, P., Chen, B. J., Lee, K. L., Fung, T. K., So, C. W. E., Wong, G. C., Petretto, E., Rackham, O. J. L. & Tiong Ong, S., 25 Nov 2022, In: *Oncogene*. 41, 48, p. 5160-5175 16 p.

HOTTIP-dependent R-loop formation regulates CTCF boundary activity and TAD integrity in leukemia

Luo, H., Zhu, G., Eshelman, M. A., Fung, T. K., Lai, Q., Wang, F., Zeisig, B. B., Lesperance, J., Ma, X., Chen, S., Cesari, N., Cogle, C., Chen, B., Xu, B., Yang, F. C., So, C. W. E., Qiu, Y., Xu, M. & Huang, S., 17 Feb 2022, In: *MOLECULAR CELL*. 82, 4, p. 833-851.e11

Reconstruction of Human AML Using Functionally and Immunophenotypically Defined Human Haematopoietic Stem and Progenitor Cells as Targeted Populations

Zeisig, B. B., Fung, T. K., Troadec, E. & So, C. W. E., 20 Dec 2021, In: *Bio-protocol*. 11, 24, e4262.

Functional reconstruction of human AML reveals stem cell origin and vulnerability of treatment resistant MLL-rearranged leukemia

So, C. W. E., Zeisig, B., Fung, T. K., Zarowiecki, M., Stanojevic, B., Lynn, C. & Mufti, G., 8 Jan 2021, (Accepted/In press) In: *Science Translational Medicine*.

HOTTIP lncRNA Promotes Hematopoietic Stem Cell Self-Renewal Leading to AML-like Disease in Mice

Luo, H., Zhu, G., Xu, J., Lai, Q., Yan, B., Guo, Y., Fung, T. K., Zeisig, B. B., Cui, Y., Zha, J., Cogle, C., Wang, F., Xu, B., Yang, F. C., Li, W., So, C. W. E., Qiu, Y., Xu, M. & Huang, S., 9 Dec 2019, In: *CANCER CELL*. 36, 6, p. 645-659.E8

Transcriptional memory of cells of origin overrides β -catenin requirement of MLL cancer stem cells

Siriboonpiputtana, T., Zeisig, B. B., Zarowiecki, M., Fung, T. K., Mallardo, M., Tsai, C.-T., Lau, P. N. I., Hoang, Q. C., Veiga, P., Barnes, J., Lynn, C., Wilson, A., Lenhard, B. & So, C. W. E., 2 Nov 2017, In: *The EMBO journal*. 36, 21, p. 3139-3155

Gag signaling is required for the maintenance of MLL-AF9 induced AML

Lynch, J. R., Yi, H., Casolari, D. A., Voli, F., Gonzales-Aloy, E., Fung, T. K., Liu, B., Brown, A., Liu, T., Haber, M., Norris, M. D., Lewis, I. D., So, C. W., D'Andrea, R. J. & Wang, J. Y., 9 Feb 2016, (E-pub ahead of print) In: *Leukemia*.

Targeting Aberrant Epigenetic Networks Mediated by PRMT1 and KDM4C in Acute Myeloid Leukemia

Cheung, N., Fung, T. K., Zeisig, B. B., Holmes, K., Rane, J. K., Mowen, K. A., Finn, M. G., Lenhard, B., Chan, L. C. & So, C. W. E., 11 Jan 2016, In: *CANCER CELL*. 29, 1, p. 32-48

Synthetic lethal targeting of oncogenic transcription factors in acute leukemia by PARP inhibitors

Esposito, M. T., Zhao, L., Fung, T. K., Rane, J. K., Wilson, A., Martin, N., Gil, J., Leung, A. Y., Ashworth, A. & So, C. W., 1 Dec 2015, In: *Nature Medicine*. 21, 12, p. 1481–1490

Suppression of SOX7 by DNA methylation and its tumor suppressor function in acute myeloid leukemia

Man, C. H., Fung, T. K., Wan, H., Cher, C. Y., Fan, A., Ng, N., Ho, C., Wan, T. S. K., Tanaka, T., So, C. W. E., Kwong, Y. L. & Leung, A. Y. H., 18 Jun 2015, In: *Blood*. 125, 25, p. 3928-36 9 p.

Epigenetics in acute promyelocytic leukaemia pathogenesis and treatment response: a TRAnSition to targeted therapies

Arteaga, M. F., Mikesch, J.-H., Fung, T.-K. & So, C. W. E., 3 Feb 2015, In: *British Journal of Cancer*. 112, 3, p. 413-8 6 p.

Sox4you: A New Player in C/EBP α Leukemia

Fung, T. K., Leung, A. Y. & So, C. W., Nov 2013, In: *CANCER CELL*. 24, 5, p. 557-559 3 p., N/A.

Overcoming treatment resistance in acute promyelocytic leukemia and beyond

Fung, T. K. & So, C. W. E., Aug 2013, In: *Oncotarget*. 4, 8, p. 1128-1129 2 p., N/A.

The Wnt/ β -Catenin Pathway as a Potential Target for Drug Resistant Leukemic Stem Cell

Fung, T. K., Leung, A. Y. & So, C. W., 2013, *Stem Cells and Cancer Stem Cells: Therapeutic Applications in Disease and Injury*. Hayat, M. A. (ed.). Springer, Vol. 10. 298 p. (Stem cells and cancer stem cells; vol. volume 10).

Selective treatment of mixed-lineage leukemia leukemic stem cells through targeting glycogen synthase kinase 3 and the canonical Wnt/ β -catenin pathway

Fung, T. K., Gandillet, A. & So, C. W. E., Jul 2012, In: *Current Opinion in Hematology*. 19, 4, p. 280-286 7 p., N/A.

Sorafenib treatment of FLT3-ITD(+) acute myeloid leukemia: favorable initial outcome and mechanisms of subsequent nonresponsiveness associated with the emergence of a D835 mutation

Man, C. H., Fung, T. K., Ho, C., Han, H. H. C., Chow, H. C. H., Ma, A. C. H., Choi, W. W. L., Lok, S., Cheung, A. M. S., Eaves, C., Kwong, Y. L. & Leung, A. Y. H., 31 May 2012, In: *Blood*. 119, 22, p. 5133-43 11 p.

Methionine aminopeptidase 2 is required for HSC initiation and proliferation

Ma, A. C. H., Fung, T. K., Lin, R. H. C., Chung, M. I. S., Yang, D., Ekker, S. C. & Leung, A. Y. H., 17 Nov 2011, In: *Blood*. 118, 20, p. 5448-57 10 p.

Characterization of Sry-related HMG box group F genes in zebrafish hematopoiesis

Chung, M. I. S., Ma, A. C. H., Fung, T.-K. & Leung, A. Y. H., Oct 2011, In: *Experimental Hematology*. 39, 10, p. 986-998.e5

Biophysical characterization of hematopoietic cells from normal and leukemic sources with distinct primitiveness

Tan, Y., Fung, T. K., Wan, H., Wang, K., Leung, A. Y. H. & Sun, D., 2011, In: *APPLIED PHYSICS LETTERS*. 99, 8, p. 3-6 4 p.

Role of a novel zebrafish nup98 during embryonic development

Fung, T.-K., Chung, M. I. S., Liang, R. & Leung, A. Y. H., Nov 2010, In: *Experimental Hematology*. 38, 11, p. 1014-1021.e1-2

Differential NOD/SCID mouse engraftment of peripheral blood CD34+ cells and JAK2V617F clones from patients with myeloproliferative neoplasms

Fung, T.-K., Cheung, A. M. S., Kwong, Y.-L., Liang, R. & Leung, A. Y. H., Oct 2010, In: *Leukemia Research*. 34, 10, p. 1390-4 5 p.

Successful engraftment by leukemia initiating cells in adult acute lymphoblastic leukemia after direct intrahepatic injection into unconditioned newborn NOD/SCID mice

Cheung, A. M. S., Fung, T.-K., Fan, A. K. P., Wan, T. S. K., Chow, H. C. H., Leung, J. C. K., Chan, L. Y. Y., Kwong, Y.-L., Liang, R. & Leung, A. Y. H., Jan 2010, In: *Experimental Hematology*. 38, 1, p. 3-10 8 p.

Specialized roles of the two mitotic cyclins in somatic cells: cyclin A as an activator of M phase-promoting factor
Fung, T. K., Ma, H. T. & Poon, R. Y. C., May 2007, In: Mol Biol Cell. 18, 5, p. 1861-1873 13 p.

Cyclin A2

Fung, T. K. & Poon, R. Y. C., 2 Mar 2007, In: UCSD Nature Molecule Pages. doi:10.1038/mp.a000717.01.

Cyclin A1

Fung, T. K. & Poon, R. Y. C., 16 Nov 2006, In: UCSD Nature Molecule Pages. doi:10.1038/mp.a000716.01.

Ubiquitination of p53 at multiple sites in the DNA-binding domain

Chan, W. M., Mak, M. C., Fung, T. K., Lau, A., Siu, W. Y. & Poon, R. Y. C., Jan 2006, In: MOLECULAR CANCER RESEARCH. 4, 1, p. 15-25 11 p.

The N-terminal regulatory domain of cyclin A contains redundant ubiquitination targeting sequences and acceptor sites

Fung, T. K., Yam, C. H. & Poon, R. Y. C., Oct 2005, In: Cell Cycle (Georgetown, Tex.). 4, 10, p. 1411-20 10 p.

A roller coaster ride with the mitotic cyclins

Fung, T. K. & Poon, R. Y. C., Jun 2005, In: Seminars in Cell and Developmental Biology. 16, 3, p. 335-42 8 p.

DNA damage during the spindle-assembly checkpoint degrades CDC25A, inhibits cyclin-CDC2 complexes, and reverses cells to interphase

Chow, J. P. H., Siu, W. Y., Fung, T. K., Chan, W. M., Lau, A., Arooz, T., Ng, C.-P., Yamashita, K. & Poon, R. Y. C., Oct 2003, In: Mol Biol Cell. 14, 10, p. 3989-4002 14 p.

Cyclin F is degraded during G2-M by mechanisms fundamentally different from other cyclins

Fung, T. K., Siu, W. Y., Yam, C. H., Lau, A. & Poon, R. Y. C., 20 Sept 2002, In: Journal of Biological Chemistry. 277, 38, p. 35140-35149 10 p.

Cyclin A in cell cycle control and cancer

Yam, C. H., Fung, T. K. & Poon, R. Y. C., Aug 2002, In: Cellular and molecular life sciences : CMLS. 59, 8, p. 1317-26 10 p.

Activities

Lady Tata Memorial Trust Fellowship

Fung, T. K. (Recipient)
2011 → 2012

52nd Annual Meeting of the American-Society-of-Hematology (ASH)

Fung, T. K. (Participant)
2010