

# Publications

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## Recent Publications

Tan, W.X., Sim, X.L., Khoo, C.M., and Teo, K.K.A. (2023). Prioritization of type 2 diabetes-associated genes for functional studies.

***Nat Rev Endocrinol.***, *accepted*.

Lim, Y.X.L., Ding, S.L.S., Muthukumar, P., Teoh, S.H., Koh, Y.X., and Teo, K.K.A. (2022). Tissue engineering of decellularized pancreas scaffolds for regenerative medicine in diabetes.

***Acta Biomaterialia*** 157, 49-66.

Tay, K.Y., Wu, K.-X., Chioh, F., Autio, M., Pek, M.Q.N., Narmada, C., Tan, S.-H., Low, A., Lian, M., Chew, E., Lau, H.H., Kao, S.L., Teo, K.K.A., Foo, J.N., Foo, R., Heng, C.K., Chan, M., and Cheung, C. (2022). Trans-interaction of risk loci 6p24.1 and 10q11.21 is associated with endothelial damage in coronary artery disease.

***Atherosclerosis***, *accepted*.

Pistollato, F., Bal-Price, A., Coecke, S., Parvatam, S., Pamies, D., Czysz, K., Hao, J., Kee, K., Teo, K.K.A., Niu, S., Wilmes, A., Smirnova, L., Freund, C., Mummery, C., and Stacey, C. (2022). Quality criteria for in vitro human pluripotent stem cell-derived models of tissue-based cells.

***Reproductive Toxicology*** 112, 36-50.

Kong, D.W., Yu, H.J., Sim, X.L., White, K., Tai, E.S., Wenk, M., and Teo, K.K.A. (2022). Multidisciplinary effort to drive precision medicine for the future.

***Frontiers Digital Health*** 4, 845405.

Featured in <https://research.a-star.edu.sg/articles/features/on-target-for-the-precision-health-era/>

Tan, L.S.#, Chen, J.T.#, Lim, Y.X.L., and Teo, K.K.A. (2022). Manufacturing clinical-grade human induced pluripotent stem cell-derived beta cells for diabetes treatment.

***Cell Proliferation*** 55(8), e13232.

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Journal Cover Image

Li, J., Togashi, Y., Inoue, R., Okuyama, T., Kyohara, M., Miyashita, D., Kin, T., Shapiro, A.M., Chew, S.E.R., Teo, K.K.A., Terauchi, Y., and Shirakawa, J. (2022). Imeglimin

ameliorates  $\beta$ -cell apoptosis by modulating the endoplasmic reticulum homeostasis pathway.  
**Diabetes** 71(3), 424-439.

Tan, W.X., Bok, C.M., Ng, H.J.N., and Teo, K.K.A. (2022). Chromatin immunoprecipitation in human pluripotent stem cell-derived 3D organoids to analyze DNA-protein interactions.  
**Methods Mol Biol.**, Volume 2429, Chapter 14, 215-232.

Book Cover Image

Lim, Y.X.L., Ching, C.#, Kong, D.W.#, Chan, S.Y., and Teo, K.K.A. (2022). Generating pancreatic beta-like cells from human pluripotent stem cells.  
**Methods in Cell Biology** 170, 127-146.

#Co-authors

Lau, H.H.#, Gan, S.U.#, Lickert, H., Shapiro, J.A., Lee, K.O., and Teo, K.K.A. (2021). Charting the next century of insulin replacement with cell and gene therapies.  
**Med** 2, 1138-1162.

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So, W.Y., Liu, W.N., Teo, K.K.A., Rutter, G.A., and Han, W. (2021). Paired box 6 programs essential exocytotic genes in the regulation of glucose-stimulated insulin secretion and glucose homeostasis.  
**Sci Transl Med** 13(600), eabb1038.

Soetedjo, A.A.P.#, Lee, J.M.#, Lau, H.H.#, Goh, G.L., An, J., Koh, Y.X., Yeong, W.Y., and Teo, K.K.A. (2021). Tissue engineering and 3D printing of bioartificial pancreas for diabetes.  
**Trends Endo Metab** 32(8), 609-622.

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Nguyen, L., Lim, Y.X.L., Ding, S.L.S., Amiruddin, N.S., Hoon, S., Chan, S.-Y., and Teo, K.K.A. (2021). Metformin perturbs pancreatic differentiation from human embryonic stem cells.

**Diabetes** 70, 1-14.

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Amirruddin, N.S., Tan, W.X., Tan, Y.S., Gardner, D., Bee, Y.M., Verma, C.S., Hoon, S., Lee, K.O., and Teo, K.K.A. (2021). Progressive endoplasmic reticulum stress over time due to human insulin gene mutation contributes to pancreatic beta cell dysfunction.

***Diabetologia* 64(11), 2534-2549.**

Low, S.J.B., Lim, C.S., Tan, Y.S., Ding, S.L.S., Ng, H.J.N., Krishnan, V.G., Ang, S.F., Neo, W.Y.C., Verma, C.S., Hoon, S., Lim, S.C., Tai, E.S., and Teo, K.K.A. (2021). Decreased GLUT2 and glucose uptake contribute to insulin secretion defects in MODY3/HNF1A hiPSC-derived mutant  $\beta$  cells.

***Nat Comms* 12, 3133.**

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Tan, L.S., Chew, S.E.R., Ng, H.J.N., and Teo, K.K.A. (2021). Protocol for the generation of pancreatic and hepatic progenitors from human pluripotent stem cells for gene regulatory assays.

***STAR Protocols* 2(2), 100471.**

Teo, K.K.A.\* , Nguyen, L.#, Gupta, M.K.#, Lau, H.H.#, Loo, S.W.L., Jackson, N., Lim, C.S., Mallard, W., Gritsenko, M.A., Rinn, J., Smith, R.D., Qian, W.-J., and Kulkarni, R.N.\* (2021). Defective insulin receptor signaling in hPSCs skews pluripotency and negatively perturbs neural differentiation.

***J Biol Chem.* 296, 100495.**

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Ng, H.J.N., Neo, W.Y.C, Ding, S.L.S., and Teo, K.K.A. (2021). Insights from single cell studies of human pancreatic islets and stem cell-derived islet cells to guide functional beta cell maturation in vitro.

***Vitamins and Hormones*, Volume 116, 193-233.**

Tan, W.X.#, Lau, H.H.#, Tan, N.S., Khoo, C.M., and Teo, K.K.A. (2021). Considerations in using human pluripotent stem cell-derived pancreatic beta cells to treat type 1 diabetes.

***Recent Advances in iPSCs for Therapy*, Volume 3, 173-197.**

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Tan, E.E.K., Hopkins, R., Lim, C.K., Jamuar, S., Ong, C., Thoon, K.C., Koh, M.J.A., Shin, E.M., Quan, D., Weerasooriya, M., Lee, C.Z.W., Soetedjo, A.A.P., Lim, C.S., Au, B., Chua, E., Lee, H.Y., Jones, L.A., James, S.J., Kaliaperumal, N., Kwok, J., Fouze, S., Tan, E.S.,

Thomas, B., Wu, L., Fairhurst, A.-M., Ginhoux, F., Teo, K.K.A., Zhang, Y., Ong, K.H., Yu, W., Venkatesh, B., Tergaonkar, V., Reversade, B., Chin, K.-C., Tan, A.M., Liew, W.K., and Connolly, J. (2020). Dominant-negative NFKBIA mutation promotes IL-1 $\beta$  production causing hepatic disease with severe immunodeficiency.

**J Clin Invest.** 130(11), 5817-5832.

Chan, J.W., and Teo, K.K.A. (2020). Replicates in stem cell models – how complicated!  
**Stem Cells** 38, 1055-1059.

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**Mol Metab**, accepted.

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**Cell Death Dis** 11, 378.

Neo, W.Y.C.#, Ciaramicoli, L.M.#, Soetedjo, A.A.P., Teo, K.K.A.\*, and Kang, N.-Y.\* (2020). A new perspective of probe development for imaging pancreatic beta cell *in vivo*.

**Semin Cell Dev Biol** 103, 3-13.

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\*Corresponding authors

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Dynamic proteome profiling of human pluripotent stem cell-derived pancreatic progenitors.

***Stem Cells*** 38, 542-555.

#Co-senior authors

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New insights into human beta cell biology using human pluripotent stem cells.

***Semin Cell Dev Biol*** 103, 31-40.

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***OBM transplantation*** 3, 1-31.

Ng, H.J.N.#, Jasmen, B.J.#, Lim, C.S., Lau, H.H., Krishnan, V.G., Kadiwala, J., Kulkarni, R.N., Raeder, H., Vallier, L., Hoon, S., and Teo, K.K.A. (2019).

HNF4A haploinsufficiency in MODY1 abrogates liver and pancreas differentiation from patient-derived iPSCs.

***iScience*** 16, 192-205.

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Kang, N.-Y.#\*, Soetedjo, A.A.P.#, Amirruddin, N.S., Chang, Y.-T., Eriksson, O., and Teo, K.K.A.\* (2019).

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***Trends Mol Med*** 25, 708-722.

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Featured Article

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Dirice, E., De Jesus, D.F., Kahraman, S., Basile, G., Ng, R.W.S., El Ouaamari, A., Teo, K.K.A., Bhatt, S., Hu, J., and Kulkarni, R.N. (2019).

Human duct cells contribute to  $\beta$ -cell compensation in insulin resistance.

***JCI Insight*** 4, 1-14.

Dirice, E., Kahraman, S., De Jesus, D.F., El Ouaamari, A., Basile, G., Baker, R., Yigit, B., Piehowski, P.D., Kim, M.J., Dwyer, A.J., Ng, R.W.S., Schuser, C., Vethe, H., Martinov, T., Ishikawa, Y., Teo, K.K.A., Smith, R.D., Hu, J., Haskins, K., Serwold, T., Qian, W.-J., Fife, B.T., Kissler, S., and Kulkarni, R.N. (2019).

Increased  $\beta$ -cell proliferation prior to immune-cell invasion prevents progression of type 1 diabetes.

***Nat Metab*** 1, 509-518.

Nguyen, L., Chan, S.Y., and Teo, K.K.A. (2018).

Metformin from mother to unborn child – are there unwarranted effects?

***EBioMedicine*** 35, 394-404.

Ng, H.J.N., and Teo, K.K.A. (2018).

Heterogeneity and cell fate flux in single human pancreatic islet cells.

***Cell Death Disease*** 9, 222.

Teo, K.K.A.\* , Lim, C.S., Cheow, L.F., Kin, T., Shapiro, J.A., Kang, N.-Y., Burkholder, W., and Lau, H.H. (2018).

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***Cell Death Discovery*** 4, 14.

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Lau, H.H., Ng, H.J.N., Loo, S.W.L., Jasmen, B.J., and Teo, K.K.A. (2018).

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***J Hepatol.*** 68, 1033-1048.

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***Diabetes, Obesity and Metabolism*** 20, 3-13.

Journal Cover Image

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***Endocrinology*** 158, 2102-2112.

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Valdez, I.A., Dirice, E., Gupta, M.K., Shirakawa, J., Teo, K.K.A.\* , and Kulkarni, R.N.\* (2016).  
Proinflammatory cytokines induce endocrine differentiation in pancreatic ductal cells via  
STAT3-dependent NGN3 activation.

**Cell Reports** 15, 1-11.

\*Co-senior and Co-corresponding authors

F1000Prime article recommendation: <http://f1000.com/prime/726281818>

Teo, K.K.A.\* , Lau, H.H., Valdez, I.A., Dirice, E., Tjora, E., Raeder, H., and Kulkarni, R.N.\*  
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**Stem Cells** 30, 631-642.

\*Equal contribution



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