

# Publications

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## Recent Publications

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**, accepted.

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.**, accepted.

\*Corresponding authors

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.

**Hormones and Stem Cells**, Volume 116.

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.

Carrat, G.R., Haythorne, E., Haataja, L., Muller, A., Arvan, P., Tomas, A., Piunti, A., Cheng, K., Huang, M., Pullen, T.J., Georgiadou, E., Stylianides, T., Amirruddin, N.S., Salem, V., Distaso, W., Cakebread, A., Heesom, K.J., Lewis, P., Hodson, D.J., Linford, J.B., Fung, A., Sessions, R.B., Alpy, F., Kong, A., Benke, P., Torta, F., Teo, K.K.A., Leclerc, I., Solimena, M., Wigley, D.B., and Rutter, G.A. (2020). The type 2 diabetes gene product STARD10 is a phosphoinositide binding protein that controls insulin secretory granule biogenesis.

**Mol Metab**, accepted.

Loo, S.W.L., Soetedjo, A.A.P., Lau, H.H., Ng, H.J.N., Ghosh, S., Nguyen, L., Krishnan, V.G., Choi, H., Roca, X., Hoon, S., and Teo, K.K.A. (2020). BCL-xL/BCL2L1 is a critical anti-apoptotic protein that promotes the survival of differentiating pancreatic cells from human pluripotent stem cells.

**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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Kang, N.-Y., Lee, J.Y., Lee, S.H., Song, I.H., Hwang, Y.H., Kim, M.J., Phue, W.H., Agrawalla, B.K., Wan, S.Y.D., Lalic, J., Park, S.-J., Kim, J.-J., Kwon, H.-Y., Im, S.H., Bae, M.A., Ahn, J.H., Lim, C.S., Teo, K.K.A., Park, S.Y., Kim, S.E., Lee, B.C., Lee, D.Y., and Chang, Y.-T. (2020).

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**J Am Chem Soc.** 142, 3430-3439.

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Dynamic proteome profiling of human pluripotent stem cell-derived pancreatic progenitors.  
**Stem Cells** 38, 542-555.

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Amirruddin, N.S.#, Low, S.J.B.#, Lee, K.O., Tai, E.S.\* , and Teo, K.K.A.\* (2019).

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

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

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Ng, H.J.N., Tan, W.X., Koh, Y.X., and Teo, K.K.A. (2019).

Human islet isolation and distribution efforts for clinical and basic research.

**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).

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**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).

Tools for bioimaging pancreatic beta cells in diabetes.

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

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Featured Article

Journal Cover Image

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.

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Single cell analyses of human islet cells reveal de-differentiation signatures.

***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.

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

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

Journal Cover Image

Isaac, A.\*, Kodali, A.\*, Nguyen, L., Teo, K.K.A., Chang, C.W., Karnani, N., Ng, K.L., Chong, Y.S., Gluckman, P.D., and Stunkel, W. (2017).

Gestational diabetes alters functions in offspring's umbilical cord cells with implications for cardiovascular health.

***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).  
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STAT3-dependent NGN3 activation.

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

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Knowledge gaps in rodent pancreas biology: taking human pluripotent stem cell-derived  
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Hu, J., De Jesus, D.F., Windmueller, R., Wagers, A.J., and Kulkarni, R.N. (2015).

Excessive cellular proliferation negatively impacts reprogramming efficiency of human  
fibroblasts.

**Stem Cells Transl Med** 4, 1101-1108.

Teo, K.K.A.\* , Gupta, M.K., Doria, A., and Kulkarni, R.N.\* (2015).

Dissecting diabetes/metabolic disease mechanisms using pluripotent stem cells and genome  
editing tools.

**Mol Metab** 4, 593-604.

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Teo, K.K.A., Tsuneyoshi, N., Hoon, S., Tan, E.-K., Stanton, L.W., Wright, C.V., and Dunn,  
N.R. (2015).

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**Stem Cell Reports** 4, 578-590.

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Cellular stress drives pancreatic plasticity.

***Sci. Transl. Med.*** 7, 273ps2.

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Comparable generation of Activin-induced definitive endoderm via additive Wnt or BMP signalling in absence of serum.

***Stem Cell Reports*** 3, 5-14.

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***Diabetes*** 63, 188-202.

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***Cell Metabolism*** 18, 775-791.

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***J Biol Chem*** 288, 5353-5356.

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***Stem Cells*** 30, 631-642.

\*Equal contribution

Brown, S., Teo, A., Pauklin, S., Hannan, N., Cho, C.H.-H., Lim, B., Vardy, L., Dunn, N.R., Trotter, M.W.B., Pedersen, R., and Vallier, L. (2011).

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***Stem Cells*** 29, 1176-1185.

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