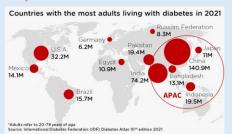


About Us

BetaLife is a Singapore-based stem cell therapy company dedicated to the treatment of diabetes. Spun out of A*STAR, we exploit the regenerative capabilities of stem cells to create next generation, off-the-shelf, functional insulin-secreting cells to treat disease.

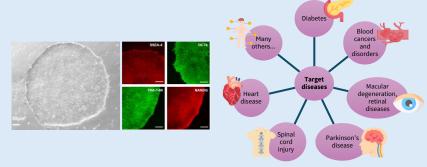
Induced Pluripotent Stem Cells, a Platform Technology

Why Does It Matter?



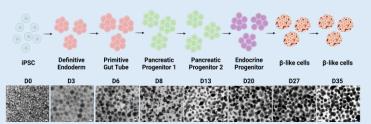
Diabetes is a health crisis that affects more than 530 million people globally. More than half of all diabetes patients live in APAC, with a dominant proportion in China. Market growth is expected at CAGR of over 10%. The insulin therapy market is estimated at USD 6.3 billion, treating over 70 million patients. Yet, insulin therapy is not effective enough for some patient groups.

Human iPSCs are a unique cell type with embryonic-like properties, that are reprogrammed from easily-accessible cell sources (blood). They have unlimited growth potential and can provide a continuous supply of any cell type of the body. Human iPSC-based cell therapies make it possible to regenerate and repair damaged / injured tissues and are being tested to treat rare and chronic disease conditions.



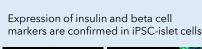
Off-The-Shelf iPSC-Derived Pancreatic Islet Cell Therapy

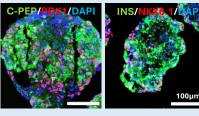
Human iPSCs undergo a proprietary, controlled, multi-step directed differentiation process to turn into functional pancreatic islet cells.

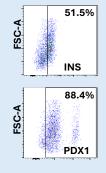


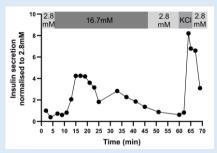
iPSC-Islet Cells

- Can be manufactured in unlimited quantity
- Can restore insulin secretion function
- Are produced on-demand
- Can be both universal or personalised







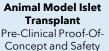


Lab-developed iPSC-islet cells secrete insulin in response to high glucose challenge.

Pre-Clinical and Clinical Development Pathway

We have obtained proof of concept that iPSC-islet cells are functional in vitro and when transplanted in animal models. We are seeking partnerships investment for early phase clinical trials to evaluate safety and efficacy in patients.







Clinical Phase I Safety and Tolerability (<50)



Clinical Phase II Safety, Efficacy and Tolerability (>100)



Clinical Phase III + Long-Term Effectiveness (>1000)

Please contact us if you are interested to work together.

1. Ho BX, Teo AKK and Ng NHJ (2024) Innovations in bio-engineering and cell-based approaches to address immunological challenges in islet transplantation. *Front. Immunol.* 15:1375177. doi: 10.3389/fimmu.2024.1375177
2. 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. Apr 26 3. 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 pluripotentstem cells. Methods in Cell Biology









Dr Natasha Ng Scientific Co-Founder natasha@betalife.sq WeChat ID: natashahjng





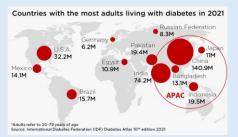
简介

BetaLife 是一家位于新加坡的多功能干细胞治疗研究公司,致力于通过将多功能干细胞分化成人体胰岛细胞治疗糖尿病。我们的核心技术获得了A*STAR(新加坡科技研究局)的许可证。我们专注于多功能干细胞的产生、开发和使用,最终目标是为再生医学细胞疗法铺平道路。

多功能干细胞技术平台



为什么值得关注?

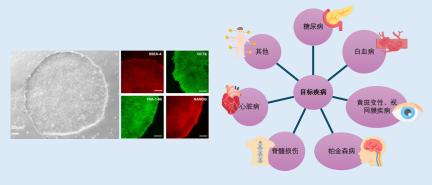


糖尿病是一种健康危机,影响全球超过5.3亿人。超过一半的糖尿病患者生活在亚洲,在中国具有很大比例的患者。糖尿病的市场预计年复合增长率为10%,在某些亚洲国家甚至更高。

亚洲胰岛素治疗市场规模估计为63亿美元(总可服务性市场),针对7000多万糖尿病患者。然而,胰岛素治疗对某些患者群体来说不够有效。

人体诱导多功能干细胞是具有胚胎特性的独特细胞类型。细胞来源易于获取 (血液、皮肤),拥有无限的成长潜力,也能够分化成身体的任何细胞类型。

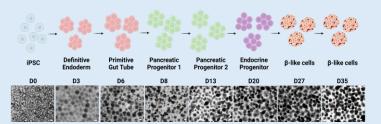
基于人类多能干细胞的细胞疗法使得再生和修复受损/受伤的组织成为可能。 慢性病的增加将推动对基于多能干细胞的治疗的需求。



多功能干细胞分化的现有胰岛细胞



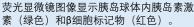
多功能干细胞经过专有的、受控的、多步骤定向分化过程,转变为功能性胰岛细胞。



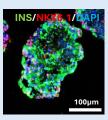
现有胰岛细胞

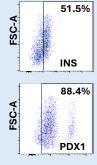
- ✓ 可以无限量生产
- ✔ 恢复胰岛素分泌功能
- ✓ 是按需、现成的细胞替代疗法
- ✓ 既可以通用也可以个性化

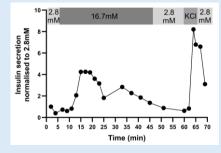












实验室开发的胰岛 细胞分泌胰岛素以 应对高糖挑战。

临床前和临床发展途径



动物模型胰岛移植 临床前安全性和概念验证



临床Ⅰ期 安全性和耐受性 (<50)



临床Ⅱ期 安全性、有效性和耐 受性(>100)



临床Ⅲ期+ 长期有效性(>1000)

如果您有兴趣合作,请与我们联系。

科学参考文献:

1. Ho BX, Teo AKK and Ng NHJ (2024) Innovations in bio-engineering and cell-based approaches to address immunological challenges in islet transplantation. Front. Immunol. 15:1375177. doi: 10.3389/finmu.2024.1375177. 2. 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. Apr 26. 3. 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





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